

TALKING AVOCADOS

Composting Case Study

Marketing Update

Small Tree High Productivity Initiative

WINTER 2015

Print Post Approved - 100015907 Volume 26 No 2

Avocados Australia Limited

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Talking Avocados

Talking Avocados is published by
 Avocados Australia Limited.

Published:

Quarterly - Autumn, Winter, Spring and Summer

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Circulation: 1000 Copies



Talking Avocados is published using avocado grower levies which are matched by the Australian Government through Horticulture Innovation Australia Limited.

Printed by: Snap Brisbane Felix Street, Level 3, 10 Felix St Brisbane 4000
 Phone: 07 3221 5850, Fax: 07 3221 3208

Email: brisfelix@snap.com.au www.brisfelix.snap.com.au

Subscriptions: Four issues per year: Australia: AUS \$65.00
 New Zealand: AUS \$85.00
 Rest of the World: AUS \$100.00

Advertising: Avocados Australia Limited,
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We all make mistakes: If we make a mistake please let us know so a correction may be made in the next issue.

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Cover: *Simpsons Farms set up a composting program.*

Chairman's Perspective

In the autumn of 2010, I agonised over the content of my first article for this important section of Talking Avocados. I had the problem of following the great perspectives of Chairmen past from David Rankine in 1990 (who introduced the first issue) to Rod Dalton and Henry Kwaczynski before me. So it has been both with pleasure and pain to be honoured with the responsibility to contribute to this page. I hope that my perspective to the avocado industry has provided points of interest for you.

This introduction may be sounding a bit melancholy because it is. There are changes already in place in the management of all horticultural industries and this basically involves a shift in influence of the direction of an industry from the Peak Industry Bodies (PIBs) to Horticulture Innovation Australia Limited (HIA). This change is already in place for the avocado industry. Growers can have influence on the activity of HIA through each grower's membership of HIA as a levy payer.

On a more positive note I can assure growers that this industry has been in good hands and the levy investments to date have been effective in driving consumption, improving quality to the consumer and improving the grower's returns. These decisions over the past five years have been driven primarily by the board of Avocados Australia Limited (AAL) and the Industry Advisory Committee (IAC) representatives (AAL board plus other growers and consultants).

From the AAL board perspective, I have no reservation in stating that these directors, sitting on the IAC, acted in the best interests of all growers and this great industry. The directors themselves had significant "skin in the game" so any benefit to avocado generally was also a benefit to them.

In 2012, I presented these figures to the Horticulture Australia Limited (HAL) board:

- The Avocado IAC then consisted of nine grower representatives (the AAL board)
- The annual levy contribution for R&D and Marketing was \$5 million
- Those nine grower members on the IAC accounted for (personal + pack shed) 40% of the total levies - \$2 million
- The largest grower \$1.1 million and the smallest grower \$2,700



- The top three growers accounted for \$1.3 million and the smallest three \$14,500
- In terms of qualifications there were five members with degrees in Agricultural Sciences or Biological Science, one accountant, one merchant banker and director of a major superannuation company, and others who generously gave time for the benefit of the whole industry.

I labour this point because all of these people had a great interest in developing this industry generically for all because that way they, and all growers, shared in the growth and prosperity.

The current arrangements consist of a non-permanent group appointed by HIA to advise HIA on those matters that HIA deem that it needs advice on and from the people that it deems to need to seek advice from. Currently the only two permanent members are the HIA CEO and Chair of AAL, and all other members are *as required*.

In the last two weeks I have been contacted by two people, who I have never met or heard of before, to thank me personally and to congratulate me on behalf of our industry for the excellent work that has been done to develop avocados to the position it holds in Australian horticulture, where we are seen to be very successful and providing prosperity to our growers.

The first was an avocado grower from the Tamborine Northern New South Wales region, and the second was a Regional Manager of one of the big banks in North Queensland who I'd imagine can easily see the difference between avocado growers' and other farmers' bank accounts.

The high praise extends to all avocado growers because you all have had a part to play in taking up the technology and advice to improve quality and supply to market to provide a quality experience for consumers, and for making the sacrifice to pay the levies that are needed to develop this industry through R&D and Marketing.

Now, we all need to get a better understanding of the changes happening to our industry management, the influence of HIA and to work with HIA to continue to get good outcomes for each and every grower, other stakeholders and the whole industry.

If you want more information regarding the transition to the HIA system then please feel free to contact me, John Tyas, your closest AAL director or even Craig Perring at HIA. I think it is important for all growers to understand what is happening to your levy money.

Jim Kochi

Jim Kochi, Chairman, Avocados Australia Limited



CEO's Report



Season update

The past few months has seen a steady supply of fruit through the market with good returns to growers. Fairly consistent supply is expected to continue through to the end of 2015 and as the weather warms up we should see demand pick up as well. As you will see in the Regional Director Reports, most regions are predicting significant increases in supply volumes in years to come. The comfortable balance between supply and demand that we are currently experiencing can only be expected to continue if demand continues to increase significantly, either in the domestic market or in new export markets.

Agriculture Competitiveness White Paper

In July, the Agricultural Competitiveness White Paper was released, an election commitment by the Australian Government. It sets out the Australian Government's roadmap for growing the agriculture sector. A number of the proposed initiatives will be of benefit to avocado growers including: improvements to the approval process for agricultural chemicals; strengthening biosecurity; assisting trade and market access, and commitments to matching R&D levies.

HIA update

HIA has established an interim avocado advisory group and this group met in Sydney on 10-11 June to provide advice to HIA regarding the investment of avocado R&D and marketing levies.

The group considered the R&D program generally, but focussed specifically on the following key areas requiring input:

- R&D to improve avocado productivity
- Priorities for avocado industry communications
- Data management, avocado quality improvement and supply chain investments
- Potential new R&D investment areas

The marketing plan for 2015-16 was also presented and is planned to continue in line with the three year strategy that was endorsed by the previous HAL Avocado Industry Advisory Committee.

The meeting did not result in any firm recommendations on any aspects of the avocado R&D program. It is intended that HIA will commission new R&D through a tender process, but questions remain regarding how and when the input from this meeting will be distilled, and priorities for new R&D confirmed. There is still considerable work that needs to be undertaken before the R&D program can move forward and we await further direction from HIA.

Avocados Australia provides services through HIA funding in the areas of Industry Communication and Supply Chain Improvement. These projects cover a range of outputs delivered by Avocados Australia including: Talking Avocados, Guacamole

eNewsletters, the industry website, the on-line Best Practice Resource, Qualicado Workshops, Infocado, Orchard Info, Retailer Training, Dry Matter Testing, Retail Quality Surveys and Retail Price Monitoring. The projects that currently resource these activities will all terminate within the next 12 months. We are working with HIA and its interim advisory mechanism to identify the priorities and commission new projects as soon as possible, so that we can continue much needed services in these areas.

Levy Senate Inquiry

In September last year, a senate inquiry was initiated regarding *"The industry structures and systems governing the imposition of and disbursement of marketing and research and development (R&D) levies in the agricultural sector."* Avocados Australia made a submission along with 150 other organisations. There have been public hearings around the country over the past six months and the Senate Committee released its report in June. One of the key issues that was frequently raised during the review is the fact that the current system does not enable the government to identify the individual levy payer or the amount of levies they pay. The first recommendation in the review report is that a levy payer database be established.

Another key issue from the review was around the process and cost involved in establishing or changing levies. It has been recommended that this be addressed.

The review highlighted the complexity of the levy system and the structures and the diversity of industry, but it noted that there is general support across the agricultural sector for the levy system.

An issue discussed frequently through the review was whether a regular poll should be required to determine the levy rate and allocations to marketing or R&D, or other. The Review Committee formed the view that this is a matter for each respective industry. It also noted that *'without a comprehensive database or register of levy payers, there is considerable risk that mandating a regular poll (or prescribing other opportunities directed at securing levy payers with a greater say in the levy) would lead to decision making based on assumptions, rather than serve as a true reflection of the aspirations and priorities of levy payers themselves.'*

Biosecurity issues

Biosecurity is one of those areas that doesn't get talked about a lot - until there is an issue. There are many avocado pests around the world that we don't have in Australia, but with the increasing movement of goods and people across borders, the pressure on our biosecurity system continues to increase. Managing biosecurity is an essential function for the avocado industry and requires ongoing industry input. In this issue of

Talking Avocados, we profile Plant Health Australia to explain the role that they play in working with Avocados Australia to manage biosecurity.

Avocados Australia also works directly with the Australian Government to provide advice on suspected Emergency Plant Pests (EPPS). The amount of input from Avocados Australia in this area is certainly increasing.

Labour issues

A number of issues are on the horizon at the moment regarding labour.

Horticulture Award - As reported in the last Talking Avocados, a four-yearly review of the Modern Horticulture Award by the Fair Work Commission is currently underway and we are working to defend the current Award conditions. The Australian Council of Trade Unions and the Australian Workers Union are currently pursuing claims which would see significant labour cost increases for horticultural businesses. Information will be provided to growers soon seeking support for this effort. As part of this process, we will need to provide evidence of the likely effect of potential changes, so a survey will be undertaken soon to gather industry data.

Tax changes - In the 2016/17 Budget the Government proposes to change the tax status of temporary working holiday makers from that of resident, to that of non-resident, from 1 July 2016. For example, a non-resident individual earning \$40,000 in the current tax year would be liable for \$4,547 in personal income tax, leaving an after-tax income of \$35,453. Under the proposed arrangements, this individual would be liable for \$13,000 in personal income tax, leaving an after tax income of \$27,000.

There are some concerns with these proposed changes. It may lead to fewer working holiday makers available for avocado

work if they perceive there is insufficient economic benefit to undertake work in Australia, such as picking fruit. Employers may be forced to pay higher wages to these workers so that their take-home pay is equivalent to Australian workers.

Seasonal Worker Program - The other area of change is in relation to the expansion of the Seasonal Worker Program. The Australian Government announced changes to the Seasonal Worker Programme as a part of a range of measures announced in the Developing Northern Australia White Paper and delivers on a pre-election commitment made by the Government. From 1 July 2015, the program is now uncapped. For more information, refer to the 26 June Guacamole eNewsletter.

Australian Government funding for new R&D project

The avocado industry will benefit from the first round of funding under the Rural R&D for Profit program. A new project called *ST15001 - Multi-scale monitoring tools for managing Australian Tree Crops: Industry meets innovation* submitted by Horticulture Innovation Australia has been approved by the Australian Government. The project will include work on avocados, building on pilot work that was undertaken as part of our supply chain program in 2013, looking to improve crop forecasting.

It is hoped that the project will enable us to undertake a national audit of tree populations, and potentially crop loads using satellite technology. Also, it is hoped that the project will enable remote sensing to assess yield, quality, tree health and other data to assist with on farm management decisions. It is a large multi-agency project working also with the macadamia and mango industries. Avocados Australia is a collaborator on the project, will be participating on an advisory panel and assisting with on-farm activities and extension.

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Around Australia

North Queensland Report

By Jim Kochi, Avocados Australia Director for the North Queensland Growing Area



The avocado harvest is now over and all growers await the onset of spring with bated breath because it is not clear what a change of season might bring. The past twelve months brought this region a long, cold spring in 2014 that interfered with the flower setting; a green drought over the summer that caused extra sunburn and smaller sized fruit and the likely further increase in water restrictions; and now a warmer wet winter as we come into an early flowering period. To top it off there was a low level cyclone in the Coral Sea - in July!

There have been significant new plantings in North Queensland in the past three years and nurseries are still booked out for the next three years so the potential for supply to out-grow consumer demand is hovering above this region and others. Our industry struggles to get up-to-date information on new plantings and the potential crop volume which has serious implications for the preparation of promotion and marketing plans for the future.

North Queensland has seen increases in area put to banana and blueberries and these industries will serve as strong competition for a limited labour resource. The recent changes to backpacker tax rules will exacerbate the labour shortage issue.

Tri State Report

By Barry Avery, Avocados Australia Director for the Tri State Growing Area



Winter got off to a cold start with the first frosts recording temperatures of -1 degrees at the start of June with some reports of slight burn to young trees. It is interesting to note the emergence of a number of new frost fans in the Sunraysia area. The message seems to be getting through to growers that frost fans provide some degree of insurance against frost and will more than likely pay for themselves in one cold season, especially when fruit is holding such good prices.

There were a great number of growers who attended the Tri-State Qualicado Workshop and were treated to an excellent array of guest speakers. It was a little disappointing that only a few growers from Sunraysia made the trip across the border. Information available on the day included results (although early days) from the national rootstock trials through to results of Howard Hall's benchmarking project, an update on the Qualicado programme plus Lisa Martin's presentation on Increasing Avo Production by Environment Manipulation all made for a really interesting day.

Tri-State growers will be watching market movements with interest over the next few months as I am predicting a possible late-August start to our season as most properties I have seen

have above average crops showing. Growers need to be mindful not to start harvest until dry matter tests show maturity, as nothing does the industry more harm than when immature fruit hits the shelves. I will finish this report by wishing everyone good luck for the rest of the winter season and hope that Mother Nature will go easy on us for the next couple of months.

Central Queensland Report

By Lachlan Donovan and John Walsh, Avocados Australia Directors for the Central Queensland Growing Area



Another season done and dusted and although prices have been as good as I have ever seen them, yield from this region was down. Many growers are reporting lower yields than what they forecast with results being reflected in Infocado.



There has been a dramatic reduction in volume out of Central Queensland over the last few years and this can be mainly attributed to the floods of 2011 and 2013. This is about to change as there have been a significant number of trees planted with many about to come into production. In addition to this increase, a huge number of trees have been stag-horned and pruned right back and are ready to start producing significant quantities.

I believe the tree health overall is looking significantly better now than what it has over the last few years. What does that mean for Central Queensland? In this coming year, volumes will be up but within a few years, volume will easily exceed the production heights achieved prior to the 2011 flood.

Now on a national scale with large plantings in Western Australia and North Queensland coming on line, there will be pressure on prices in the coming years. If we can continue to market smartly, and the marketing program that Horticulture Innovation Australia (HIA) is undertaking continues to be successful, then all will be good. It does worry me enormously that HIA consultation with industry is much less than it was under the HAL model. The latest Qualicado meeting for this region was held at Ivan and Robyn Philpott's farm at Childers. We all really appreciate the effort that it takes for farmers to put on these days as we all get a lot out of seeing different ideas, operations and mixing with other Avocado farmers. A special thank you to the speakers who participated - the more information we have the better informed our decisions will be.

South Queensland Report

By Daryl Boardman, Avocados Australia Director for the South Queensland Growing Area



As I write this report, we have experienced some of the coolest weather so far this winter with snow in Queensland. July saw one of the windiest days I can remember

with the guys in the cherry pickers looking like Sir Edmund Hillary in their beanies, balaclavas and gloves on top of the avocado trees.

Since my report in the autumn edition of Talking Avocados, I have not changed my view about the way our hard earned levy money is now controlled by Horticulture Innovation Australia Limited (HIA). If anything, my view has strengthened.

I am very concerned that HIA staff are assuming a lot more responsibility for setting the direction for R&D and marketing and that industry consultation is very limited. Since October 2014 there has been one meeting where a small group including seven levy payers provided advice to HIA in relation to a few selected investment areas. How HIA will use this advice is up to HIA. They will determine what gets funded and what doesn't at the end of the day.

Avocados Australia Limited (AAL) has grown into the great organisation it is through being able to run a number of excellent projects that levy funds have paid for over the years. One example is Infocado - probably the most important and game-changing project our industry has initiated. Another is the communication program that delivers things like this magazine. Going forward there is no guarantee that AAL will get to run these projects or if it will even continue to exist. There are many others but if HIA does not give any direction on the way forward by Christmas, AAL will become a much smaller organisation.

The small membership fees that we all pay won't sustain the organisation, resulting in the loss of key staff - which I couldn't blame them with such uncertainty.

So we are at a point in time where although our industry is in reasonable shape, most of this success has been due to our high levy compared to other industries and good marketing and research projects that have been directed from the industry.

AAL, the Australian avocado industry and growers really need to understand that the way levies are spent into the future

and we need to ensure they are not wasted and that HIA is held accountable to levy payers. For the record, AAL directors have already forgone any daily compensation when attending meetings due to lack of funds. Most meetings are facilitated via teleconference which in my opinion does not work very well. To get everyone's full attention, face to face meetings are by far the best.

But as I say, due to the loss of all funding, this will be the way forward until we decide to make changes like a much higher membership fee to AAL, Government decides to allocate part of or a percentage of the levy to Peak Industry Bodies (PIB), or drastic changes to the levy are made.

Whatever way forward, I still believe that our industry body AAL will remain the most important organisation with respect to avocados. How it will remain, only time will tell but to have such a prosperous industry with such uncertainty astounds me.

If you wish to help, the time is now to contact your local representative, local and federal members and become noisy as this will be the only way change will happen. Up to now, everyone has been quiet so in the Government and HIA eyes, this is a sign we are all happy.

The Government and our Agriculture Minister have a lot to answer for.

Sunshine Coast Report

By Robert Price, Avocados Australia Director for the Sunshine Coast Growing Area



Well the bulk of the harvesting season is over in the Sunshine Coast with yet another abnormal result. As earlier predictions indicated, the crop volumes were down considerably with undersized fruit and various amounts of skin damage. However the balancing factor in returns to the grower is that the prices received have been holding at realistic values.

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Around Australia continued

I suspect the coming season will be interesting as already the winter along the coast has been mild with consistent showers, sometimes hampering fruit picking. Those farmers who have spent a lifetime in the area can draw comparisons to weather fluctuations in the past and seem to think that the coming spring will also be warm and mild with dependable rain falls. If that is the case it bodes well for next year.

On the political front - recently in the Federal Budget it was declared that in the financial years from 2016/17 workers from overseas would lose the \$18k tax free thresh hold that is available to all Australian employees. This will result in the visiting workers losing 32% of their wages to tax. There has been a lot of debate on the web, some in the horticultural industry are predicting that farmers will lose a valuable labour source and are urging growers to contact politicians to rethink this legislation and ask for exemptions for the rural overseas workforce.

Tamborine and Northern Rivers Report

By Tom Silver, Avocados Australia Director for the Tamborine and Northern Rivers Growing Area



The avocado harvest for northern NSW and Tamborine is in full swing. Prices have been quite good and fruit quality is fair to good. Unfortunately the previous week brought two separate strong wind events which caused a lot of fruit to be blown off trees. Furthermore, incessant showers and little to no sunny breaks in between has made harvesting very difficult and orchards unsuitable for machinery use. Hopefully the coming weeks will see a move to a drier, more stable weather pattern and allow us to get on with harvest.

By now I hope that all growers are aware of the formation of Horticulture Innovation Australia Limited (HIA). I do not wish to dwell today on the way it has been established and the side lining of peak bodies such as Avocados Australia in the process.

But I do want to comment on how decisions are going to be made regarding the way our levy dollars are spent. Despite the formation of an interim advisory panel it is still not clear how levy payers will have a say on how their levies are spent and how they will hold HIA accountable for their decisions. The Australian avocado industry is currently expanding rapidly on the back of consecutive years of good prices. The worry is that unless we have our 'house in order' when the predicted big volumes hit the market, we will be straight back to the time during the early 2000's when \$16 was considered a good price. I don't want to go back there! Having our 'house in order' means an informed and regular advisory panel making strategic decisions regarding levy spending to ensure the maximum amount of quality fruit reaching the market at the maximum return to the grower.

I implore all growers to keep an ear to the ground regarding decisions made about your levies on your behalf. If you don't like them, make a racket!

Go the Wallabies!

Western Australia Report

By David Duncan and Neil Shenton, Avocados Australia Directors for the Western Australia Growing Area



So far this season the weather has been reasonably kind to us. The crop looks good but not outstanding however prices are at record high levels, so the short term outlook is good.

So where are the dark clouds?

There is concern among some growers that recent taxation legislation regarding foreign workers will affect the supply of backpackers - the backbone of the industry's harvesting workforce. If that concern becomes fact, the Government will need to do some backtracking and the whole horticulture industry will be affected. They cannot afford to let the people starve.

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The other concern is that short term prosperity will lead to long term oversupply problems - witness the wine industry.

There are some problems arising in the Pemberton area with Six-Spotted Mite which can cause defoliation at flowering. Let us see what Horticulture Innovation Australia (HIA) can do to help.

Central New South Wales Report

By Ian Tolson, Avocados Australia Director for the Central New South Wales Growing Area



This region's Hass harvest has commenced. Picking has been interrupted due to rain so a constant flow of fruit through the system has yet to be achieved. Favourable weather is forecast for the next few weeks.

On the whole, crops this year are an improvement on the past few seasons with growers working hard to improve both yield and quality but as always, there is room for improvement. Orchard health and good spray programmes must be maintained to produce a premium product. Premium product=premium return.

The Qualicado Workshop held in Comboyne was once again well attended with growers appreciating the opportunity to further their knowledge. That area is expanding their production

significantly. A big thank you to both Ernst and Penny Tideman for hosting last year's event and Gordon and Margie Burch and family for hosting this year's event. Also thanks to the speakers and Avocados Australia.

As growers we do our utmost to present the best possible product for the consumer, but somewhere along the chain something is going very wrong. There is nothing worse than walking into the produce section of the supermarket and seeing shrivelled, rotting fruit in the display. Ongoing education of the retail sector is definitely needed.



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Industry Matters

Industry Matters includes articles that have been published by various news sources and are acknowledged accordingly.

Qualicado grower and wholesaler workshops continue around the nation

AAL CEO John Tyas and Supply Chain Program Manager Nathan Symonds have been travelling the country with various guest speakers to present at each of the Qualicado grower and wholesaler workshops.

Attendees at each workshop receive an overview of the supply chain program and the Best Practice Resource (BPR) as well as grower self assessments and presentations from invited guest speakers covering best practice information to improve avocado quality and productivity. Guest speaker presentations can vary from workshop to workshop.

Tristate Qualicado Workshop

On May 21, the Tristate Qualicado Workshop held in Waikerie attracted around 60 growers. Those growers who attended also took part in the South Australia Avocado Growers Association Annual General Meeting.

The day provided growers with the chance to hear about a range of topics, aimed at improving productivity and quality. Dr Elizabeth Dann from University of Queensland was also on hand to provide an update concerning the results of the National Rootstock Trials. Lisa Martin of Ripe Horticulture presented information about ways to increase avocado production by environment manipulation and Howard Hall of CDI Pinnacle Management presented interesting insights from the national avocado grower benchmarking program.



Nathan Symonds, the supply chain program manager at AAL, provides an overview about the program and the online Best Practice Resource.

Central NSW Qualicado Workshop

On Thursday 4 June, 48 growers attended the Central NSW Qualicado Workshop at Comboyne.

Simon Newett and Noel Ainsworth from Queensland Department of Agriculture and Fisheries (QDAF) presented on the importance of irrigation for avocados, pollination and fruitset and handling and temperature control. Howard Hall from CDI Pinnacle Management presented interesting insights from the national avocado grower benchmarking program. The day finished with an orchard walk lead by host Gordon Burch.



Attendees taking in the scenery during the orchard walk

Perth Wholesaler Qualicado Workshop

On Wednesday 24 June, Perth wholesalers attended the Qualicado Workshop held at the Perth Market. Industry representatives attended the free and informative event with a program covering ripening practices, bruising and an opportunity to learn more about the Qualicado program.

Guest speaker Noel Ainsworth from DAF Queensland presented on Improving Avocado Ripening Practices and Avocado Bruising Research Update.

Western Australia Qualicado Workshop

The Western Australia Growers Qualicado Workshop was held on Thursday 25 June and attracted more than 70 attendees who were hosted at Avonova in Pemberton.

Simon Newett and Noel Ainsworth from DAF Queensland presented on the importance of irrigation for avocados, pollination and fruitset and handling and temperature control. Howard Hall from CDI Pinnacle Management presented interesting insights from the national avocado grower benchmarking program.

Dudley Mitchell, Avonova Orchard Manager took attendees on a walk through the orchard.



Dudley Mitchell taking attendees on a walk through the orchard

Qualicado Event Calendar for 2015-16

The current project provides for one more round of regional Qualicado workshops. Those interested in attending any of the Qualicado Workshops can email supplychain@avocado.org.au or call toll free 1300 303 971. If you are registered on our database, you will be notified directly about future events in your region.

Avocados Australia event information can also be viewed on our website at industry.avocado.org.au. Click on "Events" then scroll down the list and click "What's On".

Qualicado Presentations

Do you know that copies of all the presentations being delivered at Qualicado Workshops are available online?

Did you miss the last Qualicado Workshop that was held in your region? Not to worry. All of the presentations delivered at each of the Qualicado Workshops can be accessed on the Best Practice Resource (BPR). Login to the BPR then move your cursor to "Growing" and select "Qualicado" then choose your region to view the presentations.



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Industry Matters continued

Infocado

Over the first half of 2015, avocado dispatches have maintained the usual steady levels hovering between 160,000 and 220,000. The weekly forecast estimates have at times been slightly lighter than dispatches throughout this period but still provide a very good guide for industry to understand the incoming volumes (see Figure 1).

Harvest start times have been slow to begin over the autumn period across Queensland regions. Once harvest began, dispatches recovered quickly, resulting in the usual volumes now moving through the system. Late maturing fruit was the main contributing factor to the unsteady supply of avocados during the first quarter of 2015.

The four week forecast at time of writing, indicates dispatches to continue steadily through July.

The throughput graph clearly illustrates the volume change of dispatches over the last 12 months (see Figure 2). From Figure 2, the uniformity of industry dispatches is evident from April 2015 though it also illustrates the fluctuations of avocado supply over the first three months of 2015.

Infocado continues to be an extremely useful industry tool and AAL would like to encourage all packhouses to contribute to Infocado. The larger volumes that are expected in the coming years from younger plantings will be more easily managed once they start producing.

Any packhouses and wholesalers wanting to contribute to the Infocado system, please contact the AAL office on (07) 3846 6566. The weekly and quarterly infocado reports are available on the website <http://industry.avocado.org.au/Growers/Infocado.aspx>. Please note, the uploaded reports on the Infocado webpage have a delay period.

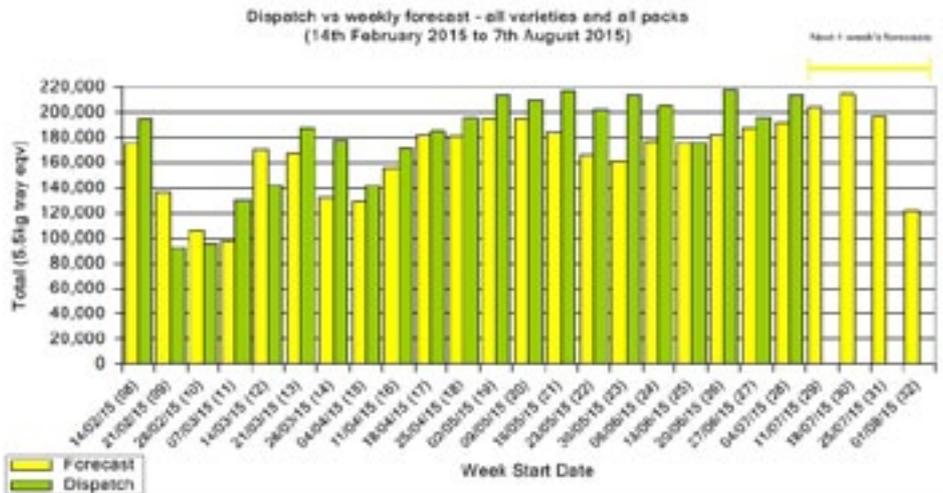


Figure 1: Six month dispatch and forecast comparative graph

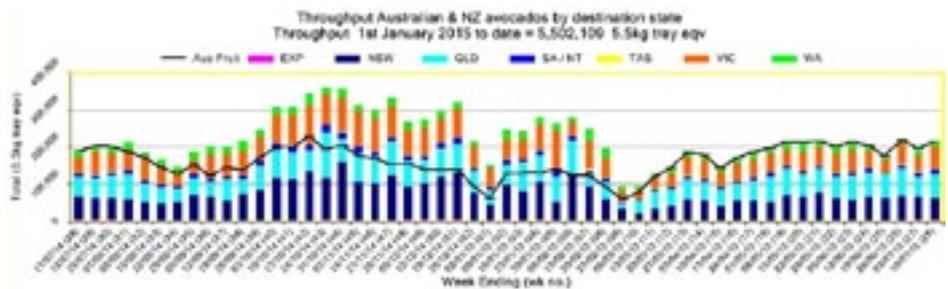


Figure 2: 12 month throughput by destination state graph



Retail Prices

As the 2014-15 financial year comes to a close we thought it would be timely to provide an article for retail prices of the avocado. Retail prices have continued to increase slightly since the massive dispatch volume that was seen in October 2014.

Growers may recall the significant influx in volume somewhat receded by the Christmas and New Year period, however healthy dispatch volumes continued to be seen well into February 2015. The graphs clearly illustrate the increasing retail price from the end of December 2014 (see Figures 3 – 6).

Perth was the only city that experienced a slight difference where the increase in retail price was more gradual than other cities. Figure 6 shows the retail price that was recorded in Perth had increased to similar levels as the other metropolitan centres by March 2015.

The difference in this trend was due to WA being the only region over this time period producing large volumes of avocados (see Figures 3 – 6). The absence of Hass retail price data throughout April 2015 illustrates the Shepard window that exists within the Australian industry.

After April 2015 a slight reduction to the retail price of avocados can be seen across all major cities and this is in direct relation to the increased dispatch volume during that time. The steadiness of retail prices could be interpreted as an indicator of the strong consumer demand and their willingness to increase domestic consumption of the humble avocado.



Figure 3: 12 month Brisbane retail prices (Hass)



Figure 4: 12 month Sydney retail prices (Hass)



Figure 5: 12 month Melbourne retail prices (Hass)



Figure 6: 12 month Perth retail prices (Hass)

Industry Matters continued

OrchardInfo

OrchardInfo is a program that collects and reports avocado planting data (tree numbers and area by variety) and data on industry marketable yields.

Although we have a high level of participation in the OrchardInfo program, the value of the information can only get better with a higher level of participation. Avocados Australia continually aims to report data for all Australian orchards. All contributors will receive a copy of the 2013 OrchardInfo report in the coming weeks.

OrchardInfo Prize Offers – got to be in it to win it!!

Want the chance to win a data logger? Contribute your data for the season beginning 2014 and you will be in with a chance to win a great prize. Previously winners received an iPad however AAL have decided to supply data loggers as the prizes which will help Australian avocado businesses to monitor different production factors that all contribute to avocado quality. This also lines up with the Qualicado program which aims to improve the quality of the avocado produced for consumers.

Due to the wide range of data loggers available on the market, AAL encourages feedback from current or potential contributors about what brands are best to use.

Avocados Australia farewells Anna Petrou

Anna Petrou, our communications manager has finished up with Avocados Australia. For over two years Anna has been providing a range of communications services and assistance to Avocados Australia. She has been managing the suite of communications tools including Talking Avocados and Guacamole. She has also provided media management assistance and to-date has helped Avocados Australia deliver its Qualicado Workshops on the ground to all major growing regions.

Anna has worked in the area of communications for the agriculture, information technology and science sectors for over ten years. She will leave Avocados Australia to take up a senior communications role with an IT company.

“Anna has made a great contribution to Avocados Australia over the past couple of years and we would like to thank her for her dedication to the role and wish her well in her future endeavours,” said Avocados Australia CEO, John Tyas.

Anna will be replaced by Kristy Lankester who has a family farming background in the North Queensland banana industry. She has worked across a range of sectors as a communications manager and consultant and has most recently been working with the Queensland Department of Transport and Main Roads.

Prior to working for the Department of Transport and Main Roads, Kristy worked on a range of road and infrastructure projects involving stakeholder relations, community consultation

and engagement, media and events management, marketing, issues management and strategic communications.

Best Practice Resource Spotlight on Phytophthora

Do you know the steps that should be taken to identify Phytophthora?

Phytophthora Root Rot affects the vast majority of growers, limiting yield and profitability of the orchard. Effective control of Phytophthora Root Rot requires a sustained and integrated management program. Information about Phytophthora and a copy of the Manage Phytophthora Root Rot poster can be accessed from the Best Practice Resource (BPR). You can also purchase a copy of the Problem Solver Field Guide by contacting the Supply Chain Manager at supplychain@avocado.org.au.

MANAGE PHYTOPHTHORA ROOT ROT
Never Let Up!

EFFECTS OF ROOT ROT

- 1. Wilting leaves
- 2. Reduced fruit & poorer quality
- 3. Premature leaf fall
- 4. Small fruit size resulting in small fruit
- 5. Yellowing leaves
- 6. Ring neck
- 7. White feeder roots (dark brown)
- 8. Y-axis necrosis

THE PEG WHEEL FOR HEALTHY TREES

- CHERICALS**
 - Use as phosphorus and calcium fertilizer
 - The phosphorus will act on both healthy & sick trees
- SITE SELECTION / PLANTING**
 - 1.5 to 2m well drained soil
 - Avoid deep drainage to prevent tree damage
 - Check pH levels where water stands
- ROOTSTOCK SELECTION**
 - Use Phytophthora tolerant rootstocks
 - Ensure system compatible with rootstock
- NURSERY TREES**
 - Source trees from accredited nurseries
 - Check top growth of plants when well propagated
- SOIL HEALTH**
 - Maintain correct pH
 - Apply correct quantity of fertiliser
 - Apply correct rate of fertiliser
- ORCHARD HYGIENE**
 - Prevent off-site drainage from entering orchard
 - Remove volunteer avocado seedlings, large trees from root
- NUTRIENT**
 - Use fertiliser to maintain optimum nutrition throughout the annual chloride based fertiliser
- IRRIGATION**
 - Monitor soil moisture daily & respond promptly to reduce symptoms and maintain
 - Avoid over-irrigation especially in sick trees

PHOSPHOROUS ACID APPLICATION

TIMING IS CRITICAL

- Only apply when soil fresh has hardened & the roots are actively growing
- Main application window is in summer & about 6 weeks long
- Spring application window is only 2 or 3 weeks long
- DO NOT apply from late 4 weeks prior to flowering

INSECTIONS (SICK & HEALTHY TREES)

- Prepare 20% strength phosphorus acid (1 part 600 g/L product to 3 parts water) do not use higher concentrations
- Total volume per tree = canopy diameter in metres x 15 mL
- Maximum 20 mL per tree, multiple sites distributed evenly around trunk or major branches, inject at low pressure

SPRAYS (HEALTHY TREES ONLY)

- Foliar Phosphorus 1400 (aqueous Stick Stick 2017) for foliar uptake
- Only spray healthy well watered trees with a full canopy (ack canopy must be targeted)
- In each application window apply 2 - 3 sprays at 2000 - 3000 L/ha (water:product 10:1) weekly, with max. 8 applications
- Use 0.4 L of a 600 g/L phosphorus acid product in 100 L water
- Check the pH of the tank mix & buffer to a pH of 7.2
- DO NOT add urea or ureic acids
- Store 30 days to 6 weeks before applying any copper fungicide after a phosphorus acid spray
- DO NOT spray if residues of copper hydroxide or sulphadiazine are present, otherwise severe defoliation may result

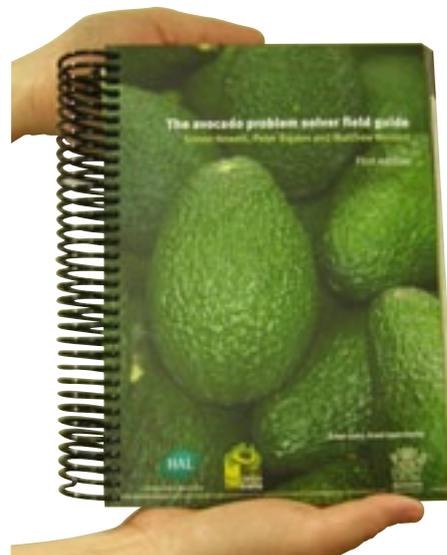
MONITOR PHOSPHOROUS ACID IN ROOTS

- Sample when feeder roots in spring and summer
- Sample kits & instructions available from: www.avocado.org.au (07) 5522 4700

TIMING

Graph showing Phosphorus application (g/L) and Root growth (mm) over a 12-month period from Winter to Winter.

If you are an Australian grower and don't have access to the BPR, apply now! To complete the online application form go to <http://bestpractice.avocado.org.au/register.aspx>.



Avocado grower secures Nuffield Australia Farming Scholarship



Bernadette Mortensen from Mangrove Mountain in New South Wales has received a Nuffield Scholarship supported by Woolworths. She will investigate how farmers can manage urban encroachment, unfavourable public perception and legislative change.

Bernadette is owner/operator of a 12-hectare farm that grows 350 avocado trees and also produces free-range chickens. The scholarship will assist Bernadette in her plans to visit and investigate how urban encroachment is being managed in agricultural areas located in the United States, China, Singapore, Mexico, the UK and Denmark.

“The Nuffield Scholarship is a wonderful opportunity to broaden the horizon and perspectives of young farmers and I am thrilled to be given this opportunity,” she said.

Avocados Australia congratulates Bernadette and wishes her well.

“We wish Bernadette well with her endeavours and we will be keen to see the outcome of her investigations into how farmers are managing urban encroachment around the world,” said Avocados Australia CEO, John Tyas.

For more information about the Nuffield scholarship see their website at www.nuffield.com.au.

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Industry Matters continued

Araluen's West Australian Avocado Festival 28-29 November 2015

By Grant Nixon, General Manager of Araluen Botanic Park

This year the Avocado Festival is being held amongst the beautiful gardens of Araluen Botanic Park in the hills orchard area of Roleystone, 35km from Perth's CBD. The festival will be based around the proven style of Araluen's Fremantle Chilli Festival that had its origins at Araluen fourteen years ago. This two-day festival that started from humble beginnings soon became a casualty of its own success outstripping the capacity of the Araluen venue. The move to Fremantle has now seen this festival grow to arguably the largest hot food festival in the world.

The Araluen's West Australian Avocado Festival will celebrate all things avocado with every stall featuring products made from this versatile fruit. There has already been great interest from a wide variety of producers wanting to showcase their products ranging from avocado cider and cocktails, to cupcakes. With experts available to advise on how to grow your avocado, chefs to show you how to explore the culinary delights of this

indispensable ingredient, and with everyone talking about Avocados, it will be a great weekend.

From our experience the flow on effect to the consumer, retailers & growers will prove to be extremely beneficial to the Avocado industry.



Attendees enjoying the 2014 Avocado Festival

\$500 FlightCentre Voucher WINNER announced

Avocados Australia's Online Communications Survey closed in May and the winner of the main incentive prize was drawn. AAL is pleased to announce that Ken Otte from Wurtulla QLD is the winner of the \$500 travel voucher from FlightCentre. Ken's name was drawn at random from the 117 respondents that took part in Avocados Australia's Online Communications Survey. Avocados Australia caps have been sent to the first ten people who responded to the survey.

A few of the key findings from AAL's Online Communications Survey will appear in an Industry Communications update article in the next issue of *Talking Avocados*.

Thank you to everyone that took part and shared their views. Once we have considered the recommendations from the review we will incorporate the findings into our future communication planning.

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Avo industry working on quality, consistency

The Australian avocado season is just finishing in Northern Queensland, with Central Queensland half way through and South East Queensland and Northern New South Wales part way through. The national volume is holding steady at 200 000 to 220 000 trays per week, according to John Tyas, CEO of Avocados Australia. "The East Coast started a little slower, after we had a very large Western Australia crop this spring and summer," he adds. Fruit quality has held up well, according to him.

Avocados Australia Chairman and North Queensland grower Jim Kochi says the crop yield was slightly lower than forecast due cooler Spring months. "This interfered with the flower-set in both the shepard and hass varieties," he says. The long, hot, dry Summer (November to February) reduced the size of the avocado fruit, and number of trays. Eating quality was still high, however. "The positive is that the dry Summer months produced high quality fruit and a significant reduction in post-harvest fruit diseases," adds Mr Kochi

Consumer education key to quality

Keeping avocado quality consistent throughout the year is something the industry is working hard on, and quality issues right along the supply chain are being addressed, Mr Tyas

confirms. "We know from past experience that not only can we have quality problems in an over supplied market, we can also have problems with an under supplied market." Short supply, expensive fruit and excessive handling have all caused issues. Avocados Australia is working with retailers, and delivering education and training at stores in Brisbane, Sydney, Melbourne and Perth through a project funded from grower levies via Horticulture Innovation Australia to improve quality.

Point of sale material on selection, ripening and storage has also been produced, however there is still a long way to go before shoppers stop damaging the fruit, Mr Tyas says. "Research undertaken a few years ago showed that consumers are unlikely to stop squeezing the fruit to determine ripeness. Consumers just don't know how much damage they're doing," he said. "If they just press gently at the stem end they will do much less damage - its about education." If fruit is sorted by ripeness level and ripe fruit is clearly labelled as 'ripe and ready to eat' then much less handling is needed and consumers get a better product, adds Mr Tyas.

The strategy is paying off with the independent retailers, Mr Tyas says, but the larger supermarket are still very strict on what material they will allow on display. Avocados Australia is keen to work more closely with the big chains moving forward. "Other research done about 18 months ago showed that 58% of respondents would buy more avocados if they understood

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Industry Matters continued

better how to select, store and handle them. Avocados Australia has the information consumers want, we just need to get it to them," Mr Tyas says.

Exports still targeting Asia

In terms of export markets, the recent FTA signed with China will have no immediate impact for Australian avocado growers, according to Mr Tyas. China, Japan and Thailand are key priorities for new market access, he says. "With Thailand we've been working on getting access back for the last two years. The biggest issue remains the Queensland fruitfly, but fruit flies aren't a real pest of avocados, just a quarantine issue."

Australia will target premium markets in China once protocols are in place, tariff reductions will then help, according to him. "When it comes to China we're in a great spot to get fruit into that market when it's open to Australia."

Source: <http://www.freshplaza.com>

Avocado study flies in the face of pollination wisdom

Australia's avocado growers may be able to significantly increase yields if they encourage a diversity of insects around their orchards, according to new research into the best ways of optimising pollination in the fruit.

The study is being carried out with the help of growers in the tri-state area around the border between South Australia, Victoria and New South Wales. Plant & Food Research Australia is carrying out the research, which is being funded by Horticulture Innovation Australia (HIA).

Lead researcher Brad Howlett said most people assume honey bees are the best pollinators, but with avocados this may not be the case.

"Some of the orchards with the best yields have very few honey bees, but an amazing diversity of flies, and a close study of their ability to transfer pollen shows many are as effective as bees," Mr Howlett said.

"Avocados are tricky because the flowers not only open as male one day and female the next, but are usually only open a few hours a

day - or even open at night if it's cold.

"That can be problematic if you're relying on bees, because they aren't active at night, and don't like cold or rain.

"The benefit of encouraging populations of various insects during flowering is that each one has a different behaviour, so you have a better chance of them being active at the right times."

Growers already know that yields can be up to ten times better if flowers are adequately pollinated. Polliniser trees planted amongst the main varieties such as Hass, can improve cross-pollination by providing a source of pollen.

During the next flowering season researchers hope to investigate how the pollen flows between the varieties, as well as continuing more detailed field surveys into the different species of insects in the crops.

Mr Howlett says the findings may mean the avocado growers lucky enough to have an abundance of fly pollinators are probably somewhat protected from the impact of the Varroa mite, a bee pest that's devastated global honey bee populations and the crops that rely on pollination.

"If flies can do the job just as well and we find them to be widespread, avocados may be one of the few crops that isn't as adversely affected if Varroa enters Australia and wipes out most of the feral honey bees that many growers rely on as their main source of pollination."

Source: www.horticulture.com.au





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Avocado R&D program overview

Prepared by Craig Perring, Industry Services Manager, Horticulture Innovation Australia (HIA)

HIA was declared the industry services body for horticulture in November 2014, replacing Horticulture Australia Limited (HAL). HIA is now halfway through undertaking a major business transformation to a grower-owned company with a new operating model.

HIA is a not-for-profit, grower-owned Research and Development Corporation (RDC) for Australia’s \$9 billion horticulture industry. HIA invests more than \$100 million in Research, Development (R&D) and Marketing programs annually.

Currently, HIA uses grower levies, investor and matched government funds to invest in these programs for Australian horticulture industries, including the avocado sector, to increase productivity, farm gate profitability and global competitiveness. Ultimately it’s about giving growers more knowledge and services needed to build a profitable and sustainable business. HIA’s key functions are to:

- increase productivity
- increase farm gate profitability
- increase global competitiveness.

Features of the new HIA operating model will involve direct consultation with levy payers and other stakeholders, member

and levy payer registers, new and flexible advisory mechanisms, and more accountable evaluation of the performance of levies and strategic investments.

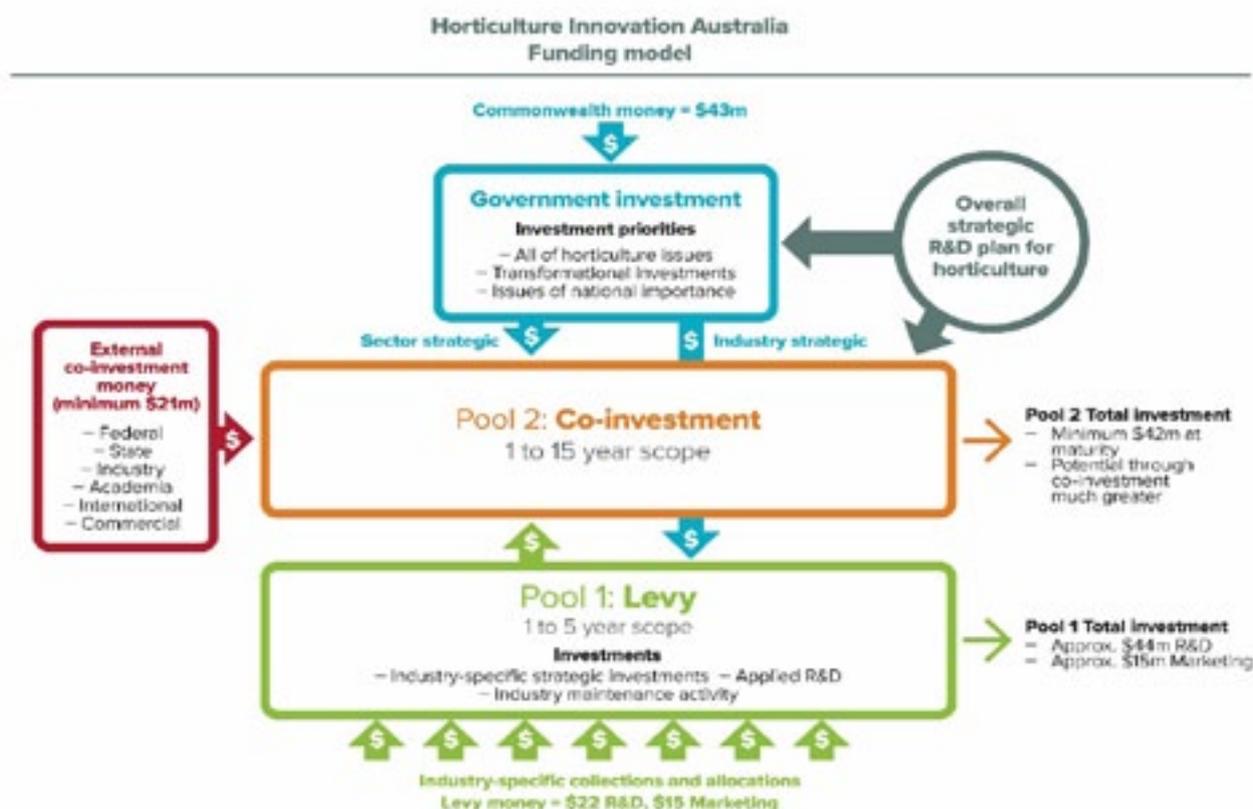
A significant change to the organisation will be implementing a two-pool funding model which will allow HIA to invest in industry based R&D and Marketing projects on behalf of levy paying industries (Pool 1) and in longer term and larger strategic projects with co-investment from other sources (Pool 2).

Pool 1 – will allow HIA to invest levies and receive matched dollar for dollar funding for all R&D investment. Pool 1 will also allow for levy money to be invested unmatched through marketing programs.

Pool 2 (Strategic co-investment fund) – will allow HIA and other stakeholders to invest money into R&D and receive matched dollar for dollar funding for all R&D investment. Pool 2 will focus on longer term and larger strategic projects with co-investment from other sources.

The new HIA two-pool funding model

HIA currently has over 1,100 members, covering 43 separate industries and more than 80 commodities, including fruits, nuts, vegetables, mushrooms, nursery, turf and cut flowers. The gross value of production of the Australian horticulture sector is in



Avocado R&D program overview continued

excess of AUD\$9 billion per annum.

HIA encourages all avocado levy payers to join as members to ensure your industry is well represented.

By becoming a member, you will have the opportunity to:

- **Be represented** – join your fellow avocado members to ensure the avocado industry continues to be represented
- **Be heard** – have a direct say in the future of Australian horticulture and how your avocado industry levy funds are invested. You can also work with HIA to look at long term projects that represent the avocado industry
- **Get involved** – road shows, forums, field days and workshops are coming your way and avocado growers need to be represented!
- **Be informed** – timely access to industry events, information and news that could be relevant to the future success of your business.

Becoming a member of HIA is free. To find out more, visit www.horticulture.com.au/membership, email membership@horticulture.com.au or call the membership team on 1300 880 981 or 02 8295 2395.

The project summaries below include all projects that have had levy or voluntary contribution (VC) investment in the last financial year. The avocado industry invests through HIA in R&D and marketing programs mainly using avocado grower levies and VC. Multi Industry (MT) projects where the avocado industry jointly funds a project with one or more industries and Across Industry (AH) projects that are funded by all horticultural industries including avocados are also mechanisms by which the avocado industry leverages funds.

The avocado investment program is reviewed and adjusted annually in line with the industry's strategic investment plan (SIP). The SIP is based on three key objectives:

- Objective 1 - to build a sustainable and competitive supply of Australian avocados to meet consumer needs
- Objective 2 - to increase demand for Australian avocados
- Objective 3 - to ensure appropriate organisation, resourcing and management of the affairs of the Australian avocado industry to support the development of the industry on an ongoing basis.

Projects relevant to the avocado industry over the last 12 months have been funded through four different mechanisms, including projects under the HAL model, and these are:

1. Avocado grower levies
2. 'Voluntary contributions' (VC projects)
3. 'Multi industry' projects where the avocado industry jointly funds a project with one or more industries (MT projects)
4. that are funded by all horticultural industries including avocados (AH projects).

VC projects that relate to avocados can be found below with the grey shaded background.

MT or **HG** projects funded by avocado levies can be found below with the yellow shaded background.

AH projects can be found below with the blue shaded background.

Following is a snapshot of the current avocado program funded through HIA. For further details on the specific projects, we encourage you to contact the relevant Project Leader or Craig Perring on craig.perring@horticulture.com.au or 0404 407 262.



Objective 1: To build a sustainable and competitive supply of Australian avocados to meet consumer needs

AV09024

Mechanisms of cultivar, and race-based disease resistance in avocado

Service Provider The University of Queensland

Project Leader Dr Andre Drenth

Start Date 30/08/2010

End Date 01/07/2014

Funding Type Levy

Summary

While it is well established that rootstock influences resistance of avocado (*Persea americana*) to anthracnose in fruit (*Colletotrichum gloeosporioides*) and root rot (e.g. *Phytophthora cinnamomi*), little is known about the physiological, molecular or biochemical bases underlying this resistance or tolerance. The aim of this project is to determine key characteristics among rootstocks from the three ecological races of avocado which correlate with disease resistance. Once these characteristics are identified, we can use them as markers to screen and select for higher levels of resistance among cultivars or races of *Persea* sp. The outcome of this project is to help significantly speed up breeding and selection for superior material for the industry. The project has linkages with existing HIA / AAL funded projects on avocado disease management and rootstock evaluation.

AV10001**Improving yield and quality in avocado through disease management, Phase 2**

Service Provider The Department of Agriculture and Fisheries, Qld

Project Leader Dr Elizabeth Dann

Start Date 31/12/2010

End Date 31/12/2014

Funding Type Levy/VC

Summary

The loss in productivity due to poor tree health and sub-standard quality fruit is a continuing concern for individual avocado growers and the entire Avocado industry alike. The aim of this project is to enhance avocado fruit standards by optimising fruit yields, fruit quality and tree health, by improving management of insidious diseases affecting fruit, roots or whole trees. Strategies which reduce the reliance on chemical fungicides will be assessed, in accordance with public and regulatory attitudes and policy both in Australia and overseas, and the adoption of effective 'softer' options encouraged where possible.

Benefits to industry will include:

1. Improved management of Phytophthora root rot, via resistant rootstock material and more effective applications of phosphorous acid
2. Enhanced fruit quality and yields, via improved integrated management of postharvest diseases
3. Investigation of management options for brown root rot, caused by *Phellinus noxius*.

AV10002**Avocado best management practices and internet based information delivery**

Service Provider The Department of Agriculture and Fisheries, Qld

Project Leader Mr Simon Newett

Start Date 1/11/2010

End Date 31/10/2014

Funding Type Levy

Summary

This three-year project will focus on the creation of clear, concise, up-to-date information products to assist Australian avocado growers to grow premium quality avocados at a competitive cost. An internet based content management system is proposed to provide the framework for delivering information for producers both during and beyond the life of this project. A hard copy full colour field guide will also be published to allow growers to identify problems in the field.

The wealth of information generated in the previous avocado extension project (AV06003) will form the basis of these information resources for growers together with additional input from other technical experts. A checklist of recommended best management practices will be developed against which growers can compare their own management practices. AVOMAN software users will continue to be supported and hands-on training will be provided where possible.

A steering group will guide the project to ensure that the information products developed are relevant and useful.

AV10019**Reducing flesh bruising and skin spotting in Hass avocado**

Service Provider The Department of Agriculture and Fisheries, Qld

Project Leader Dr Daryl Joyce

Start Date 01/07/2011

End Date 28/11/2014

Funding Type Levy

Summary

Gaining a better understanding of where and how avocados are bruising before hitting the supermarket shelves will ultimately lead to increased consumer purchasing. Up to 80 percent of 'Hass' avocados on the retail shelf have defects in the flesh which can reduce consumer purchasing with bruising and rots the two most significant defects. Reducing rots in avocado fruit has received considerable attention, but there is no clear understanding of how to reduce flesh bruising. Recent research and anecdotal evidence indicates that typical skin spotting severity on partly-coloured Hass fruit can also significantly reduce consumer intent to purchase, incur occasional rejections and discounting by agents/DC/importers, and cause some importers of Australian 'Hass' fruit to deem levels of skin spotting unacceptable.

The first year of the project constitutes a scoping study to develop and apply a methodology for identifying the critical steps where fresh bruising is occurring, start developing a suitable decision tool to assist industry to reduce bruising, and better understand the commercial impact of skin spotting.

Critical evaluation of project results will be held at the end of the first year to determine priority areas for continued R&D in year's two to four.

Project objectives and methodology will be developed in close association with our commercial project partners. This intimate interaction throughout the project will ensure direct communication of findings and immediate and ongoing relevance of project methodology to commercial outcomes. Articles in *Talking Avocados* and presentations at field days and conferences will ensure wider dissemination to the avocado industry.

Avocado R&D program overview continued

AV12009

Understanding and managing avocado flesh bruising

Service Provider	The Department of Agriculture and Fisheries, Qld
Project Leader	Dr Daryl Joyce
Start Date	06/12/2012
End Date	30/12/2014
Funding Type	Levy

Summary

The expected outcomes of this project will generate real interest by the retailers looking to invest in practices and technologies that minimise bruising in avocados. In turn, increased consumer confidence to repeat purchase should pull-through to increased avocado production and sales opportunities.

Up to 80 percent of Hass avocados on the retail shelf have defects in the flesh which reduce consumer purchasing. Bruising and rots are the two most significant defects leading to losses in sales and ultimately production opportunities. Reducing rots in avocado fruit has received considerable attention, but there is no clear understanding how to reduce flesh bruising. The requirements to achieve this are detailed knowledge of where and how bruising is occurring and the tools to help retail businesses to reduce bruising and thereby sales pull-through for avocado producers.

AV11015

Avocado industry fruit quality benchmarking

Service Provider	Avocados Australia Limited
Project Leader	Mr John Tyas
Start Date	07/03/2012
End Date	26/02/2016
Funding Type	Levy

Summary

Avocado quality can impact significantly on consumer purchase behaviour. With the overall aim of meeting consumers' requirements, recent research now allows us to quantify the negative impact on purchases, specifically in relation to maturity, ripeness and internal quality.

The updated *Avocado Industry Strategic Plan (2011-2016)*, focuses on ensuring that consumers can confidently purchase consistently high quality fresh avocados at retail level. One of the outcomes required from research and development in the next five years is to increase the percentage of fruit sold at retail level meeting consumer requirements from 75 percent to 90 percent.

This project will continue on from those projects (using the same methodology) to track and quantify changes in quality and use that information to track and measure the success of

projects (as above) aimed at improving quality. The results will also be provided to members of the supply chain to illustrate the beneficial impact of improved quality on overall profit.

AV11021

An analysis of fruit spotting bug activity in avocado crops from fruit set to harvest

Service Provider	The University of Queensland
Project Leader	Dr Ian Newton
Start Date	24/01/2012
End Date	31/01/2016
Funding Type	Levy

Summary

Developing a broader range of options to manage the major pest fruit spotting bug (FSB), *Amblypelta lutescens* and *Amblypelta nitida* is the main aim of this project. FSBs are major pests of tree fruit, nut and vine crops through the coastal and sub-coastal areas of tropical and subtropical Australia. The nymphs and adults feed on fruit and nuts causing external scarring and internal damage, which results in loss of premature crop or an unmarketable product.

Avocados are perhaps the most affected crop, as bugs will attack newly set to harvestable fruit over a five to six-month period. Fortnightly sprays of endosulfan have been used by some growers to control bugs, but the recent deregistration of this product has left a serious challenge for the avocado industry. It is hoped that the challenge will be largely met by HIA project, *A multi target approach to FSB management (MT10049)*, but there is a limit to what this project can investigate at the specific crop level.

There is some data on bug damage levels, hotspots, edge effects and varietal susceptibility in avocados. However, expanding the management options for this pest requires a more detailed understanding of:

- Bug activity within the crop and how this relates to damage epidemiology
- The importance of immigration versus within-crop breeding
- The utility of the newly determined *A. lutescens* pheromone as a monitoring tool
- The significance of egg parasitism within-crop
- The potential role the pheromone has in enhancing parasitism.

The project plans to address these areas in the varieties Shepard and Hass in north Queensland to provide a better understanding of FSB activity in avocados.



AV12007**Data collection to facilitate supply chain transparency**

Service Provider Avocados Australia Limited

Project Leader Mr John Tyas

Start Date 01/09/2012

End Date 31/08/2015

Funding Type Levy

Summary

With the Australian avocado industry experiencing an extremely large growth phase in production, creating an environment in which market forces work efficiently to clear product quickly through the market is essential. The industry currently produces approximately 57,000 tonnes of fruit annually and this is expected to increase to 71,000 tonnes by 2016/17.

In the past, the retail avocado market tended to operate independently from these market forces, creating unclear market signals and fruit becoming backed up in the system. The precursor to this project, *Avocado retail price surveys* (AV07023) has helped to remedy this situation with weekly price monitoring across all major markets. This information allowed an indicative prevailing retail price across each market to be

determined and made available to producers. This information assisted in evening up the balance of market power between consumers, retailers and producers by providing clarity around the price consumers are paying for fruit.

AV12012**Coordination of data management and avocado quality improvement and extension program**

Service Provider Avocados Australia Limited

Project Leader Mr John Tyas

Start Date 02/03/2013

End Date 31/03/2016

Funding Type Levy

Summary

Improving issues relating to fruit quality and irregular supply through ongoing data management is the main aim of this project. The project has the following two objectives:

- To expand on the results from the project, *National avocado quality & information management system* (AV09001). Specifically, this will entail:
 - Ongoing coordination of a suite of supply chain projects

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Avocado R&D program overview continued

that AV09001 managed or participated in. These and other projects have provided industry with valuable information relating to a range of issues including internal fruit quality, fruit maturity and supply chain education to improve handling. This information has enabled industry to identify and begin to rectify issues relating to fruit quality and irregular supply into the market. These factors strongly influence consumer demand and industry's ability to anticipate and meet that demand.

- b. Establishment, maintenance and improvement of a quality improvement and extension program, the template for which was developed as a part of AV09001. The goal of this system is to put support and monitoring systems in place to enable the supply chain to improve fruit quality and thus the end consumer's experience. It will be focused on education, training, identification of issues and continuous improvement.
2. Ongoing data management

Infocado is the avocado industry's crop forecasting system and the Orchard Info system collects production and productivity information. These two systems provide industry and individual businesses with accurate production, sales and productivity data on which to make future R&D and marketing and promotion decisions. This program will fund their continued running and maintenance.

This data collection is particularly important as the Australian avocado industry is experiencing an extremely large growth phase in production.

AV12013

Implementing improvements in the avocado supply chain

Service Provider Avocados Australia Limited

Project Leader Mr John Tyas

Start Date 20/12/2012

End Date 30/11/2015

Funding Type Levy

Summary

The overarching goal of this project is to improve the quality of Australian avocados in the market place. A continuation of AV10006, this project aims to build on the materials and systems established in phases one and two which will be achieved by:

- Continued promotion of the existing supply chain education materials and programs developed in AV08017 and AV10006
- Revision and further development of existing supply chain education materials as needed to include new science and recommendations for handling avocados
- Continuing the rollout of a retailer training program established in AV10006 aimed at educating retail staff on

how best to handle and store avocados and thus improve or maintain fruit quality

- Ongoing maintenance and promotion of the Best Practice Resource (BPR) which houses online, interactive adult learning modules and best practice reference materials
- Additional new modules to the BPR as new information become available.

AV13000

RNA silencing based Phytophthora root rot resistant avocado rootstocks – Phase 2

Service Provider The University of Queensland

Project Leader Dr Neena Mitter

Start Date 15/09/2013

End Date 31/07/2016

Funding Type Levy

Summary

Phytophthora root rot (PRR) is considered the most important and most widely distributed disease of avocados. Avocados are cultivated in tropical and subtropical regions of more than 50 countries and from a production point of view PRR caused by *Phytophthora cinnamomi* is the single most important disease of avocado.

Phytophthora root rot is the most serious pre-harvest disease and it is estimated to cause losses in the region of about \$40 million in lost production and fruit downgrading (mainly sunburn and small size) per year.

Growers are estimated to spend \$3.4 million per year on chemical prevention practices alone, excluding the cost of other cultural practices designed to reduce the effect of the disease such as mulching, drainage work, and careful irrigation management.

The current proposal aims to deliver Phytophthora root rot tolerant avocado rootstocks by:

- Extending the outputs of AV08002 from glasshouse screening to a field trial evaluation of PRR tolerance of transgenic rootstocks
- Designing, planning and executing the field trial – discussions initiated with the Office of the Gene Technology Regulator (OGTR) as well as Andersons Horticulture
- Satisfying OGTR requirements and confirm the absence of the transgene in the scion
- Evaluating non-target effects of the technology on plant growth characteristics
- Clonally propagating identified PRR tolerant transgenic line(s)
- Continuing to generate more independent transgenic lines/ constructs and including other rootstocks as recommended by the industry.

AV13003**Australian avocado benchmarking program development rounds II and III****Service Provider** Pinnacle Agribusiness**Project Leader** Mr Howard Hall**Start Date** 15/07/2014**End Date** 29/07/2016**Funding Type** Levy**Summary**

The value of enterprise benchmarking increases exponentially, as data from multiple years is collected and analysed. An industry benchmarking database compiled from just one financial or data year/period will capture inherent differences between management practices, regions, seasonal conditions and many more aspects of any broadly distributed business activity.

This project is the continuation of the Australian Avocado Benchmarking Program Development, commenced in AV11026. This project is the further development of an industry database and benchmarking process that will enable growers to identify and strive for Australian best practice in production, packing and marketing of avocados. By participating in this project and/or learning of and adopting findings from this process, growers will be able to improve farm productivity, produce quality and

sustainability.

Insights arising from this project will assist growers to understand relationships between key farm and business practices and the primary outcomes they are aspiring to achieve, namely improved productivity, cost efficiency, quality and consistency of produce.

The outputs from this project will enable comparisons between growers based on a combination of location, business size (turnover, volume or tree numbers) and principal varietal type, over multiple years. Motivated growers will then be in a position to identify those areas which impact greatest on their productive and financial performance.

AV13017**Minor use permits and strategic agrichemical review process for the avocado industry****Service Provider** Horticulture Innovation Australia**Project Leader** Jodie Pedrana**Start Date** 10/12/2013**End Date** 31/05/2015**Funding Type** Levy**Summary**

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Avocado R&D program overview continued

of pesticides is being modified through the increasing uptake of integrated pest management, be it that specific pesticides are being used more strategically.

Pesticide companies submit use patterns for registration to the Australian Pesticides and Veterinary Medicines Authority (APVMA) and the avocado industry is generally provided with significant registrations because of its major crop status. Minor use permits are required in the avocado industry where the market size is considered too small and therefore not adequate commercial returns for the research and development investment by the pesticide companies.

The minor use program through HIA has initiated the strategic agrochemical review process (SARP) to give strategic direction to the minor use program investments and reduce the impact caused by pesticide residue violations in any market and accessing pesticide options for long term sustainable pest management practices.

The avocado industry is undertaking the SARP to provide a more strategic approach to accessing the appropriate pesticides for present and future needs. It will also give the industry a better understanding of the investments required for this issue.

Other needs for minor use is when necessary pesticides are taken off the market through either the APVMA chemical review process (finding data inadequate to maintain the registration of specific pesticide use/s) or the pesticide manufacturer/owner stops producing the product for commercial reasons.

The aim of this pay-on-invoice project is to provide funding for all minor use work for the avocado industry so that appropriate access to pesticides is maintained. These minor use funding requirements will be in the areas of:

1. Funds required for conducting the Strategic Agrochemical review process (SARP)
2. Desktop permit applications - collation of available data, writing up and submitting permit applications and following the applications through the APVMA permit application process until the permit is achieved
3. The payment of APVMA permit application fees for new and/or renewing minor use permit (present but expiring permits).

AV13018

Avocado rootstock assessment and improvement – interim

Service Provider The University of Queensland

Project Leader Dr Elizabeth Dann

Start Date 02/09/2013

End Date 30/09/2015

Funding Type Levy

Summary

The Australian avocado industry, through HIA, has funded

a series of projects over the last decade which focused on evaluating the effect of rootstock on tree growth, fruit yield and postharvest quality. This work had an independent review conducted, with recommendations for future research finalised in August 2013.

However, detailed statistical analyses of data generated in the program, growth assessments of a late-planted rootstock trial and maintenance of the avocado variety block need to be conducted as a matter of urgency. These activities are not currently covered under any other projects.

The aim of this project is to ensure basic maintenance, data collection and analyses are undertaken in 2013/14.

AV13021

Exploring alternatives for managing Phytophthora root rot in avocado

Service Provider The University of Queensland

Project Leader

Dr Elizabeth Dann

Start Date 25/03/14

End Date 31/05/16

Funding Type VC

Summary

Protection of the avocado trees and developing fruit from pests and diseases will always be of prime concern to growers. Industry must remain vigilant and prepared to evaluate new products, such as mandipropamid and potassium silicate, to ensure delivery of high quality fruit from healthy trees. This will enhance productivity and maintain competitive advantage at the grower and whole of industry level.

The question that this project will answer is, 'Can mandipropamid and/or potassium silicate improve avocado tree health and productivity by reducing Phytophthora root rot (PRR)'.

The aims of the project are to evaluate:

1. The efficacy of mandipropamid to control PRR under glasshouse conditions, as a 'proof of concept' prior to extensive field trials
2. The effect of soil drench or foliar applications of potassium silicate on tree health, fruit yield and quality, and root regeneration under high PRR field conditions.

Outputs

1. Information on the efficacy of mandipropamid to reduce Phytophthora root rot disease, supporting further field testing and development of mandipropamid
2. Demonstrated effects of field-applied potassium silicate on improving tree health, increasing yield and quality and stimulating root growth

3. Recommendations to industry of improved orchard practices for improved tree health and PRR management
4. Extension of research to industry via articles and presentations at grower field days and conferences.

AV14000

Achieving more consistent yields of quality fruit in the Australian avocado industry

Service Provider The Department of Agriculture and Fisheries, Qld

Project Leader Simon Newett

Start Date 01/11/2014

End Date 31/12/2017

Funding Type Levy

Summary

The aim of the project is to provide Australian avocado growers with the knowledge required to implement practices that will

lead to more consistent high yields of good quality fruit.

Grower adoption of best practices will result in a more consistent supply of Australian avocados to the market. To encourage greater grower adoption the avocado industry is seeking an extension project that addresses issues of inconsistent supply of Australian avocados.

There is a perception that irregular bearing is primarily an issue in the southern (cooler) states of Australia (for example, Victoria, South Australia and Western Australia) but it affects all producing states including Queensland where some of the worst cases have been recorded (West Moreton region) and it is a regular issue in the temperature sensitive 'Shepard' variety which is grown in Central and Northern Queensland.

The project will focus on educating growers about practices and conditions that can lead to alternate bearing, and how to reduce its severity. Other on-farm topics that are important to the sustainable and competitive supply of Australian avocados will also be accommodated in the project.



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Avocado R&D program overview continued

AV14012

Investigating tree mortality during early field establishment

Service Provider The University of Queensland

Project Leader Dr Elizabeth Dann

Start Date 01/08/2014

End Date 31/12/2016

Funding Type Levy

Summary

The aim of this project is to increase our understanding of disease causing tree deaths after out planting, and provide practical management procedures for nurserymen and growers.

Plant diseases are rarely static and in the future the number and types of disease affecting avocado will change. We have become aware of two disease issues within recent years affecting the success of our plantings. One is a species of fungus, *Calonectria* (also known as *Cylindrocladium*), which infects roots of plants in the nursery (possibly during the high humidity phases of clonal propagation) and causes severe destruction of roots of nursery trees. The other problem encountered by some growers is the decline and death of young trees from a dieback and canker disease, most likely caused by species of *Botryospheria genera* of fungi.

Improved health benefits in avocado orchards will include:

1. The supply of healthy trees which are free of pathogens to growers
2. High establishment and growth rates of trees after out planting. This will save replanting, and lead to vigorous growth and rapid onset of fruit production
3. Recommendations on management of the diseases in the nurseries and also on-farm, which includes nursery hygiene, targeted use of fungicides, and disinfestations.

MT10021

Determination of cold tolerance in immature stages of Australian pest fruit fly species

Service Provider The Dept of Agriculture, Fisheries and Forestry, Qld

Project Leader Mr Peter Leach

Start Date 01/11/2010

End Date 15/12/2014

Funding Type Levy

Summary

By developing testing procedures to determine the cold tolerance of Australian pest fruit fly species, this project aims to reduce existing risks to current and future export protocols. The major focus of cold treatments research has been limited to the Queensland fruit fly and Mediterranean fruit fly but Australia has over 10 species of fruit fly which could be categorised as serious

quarantine pests. The fact that there is no data on the tolerance of tropical fruit fly species to cold treatment is a major risk to current and future export protocols.

By developing testing procedures, it will be possible to negotiate robust protocols based on science rather than relying on trading partners' interpretation of a particular species pest status (e.g. Taiwan and the efficacy of cold treatment against Queensland fruit fly). The data packages will also have benefits for producers in fruit fly free areas should an incursion by a tropical fruit fly species occur. Under such circumstances trade would be able to continue (using a cold treatment) until the incursion is eradicated. Without data packages on cold tolerance, trade may be lost until eradication is complete.

MT10049

A multi target approach to Fruit Spotting Bug management

Service Provider NSW Department of Primary Industries

Project Leader Dr Ruth Huwer

Start Date 01/03/2011

End Date 01/04/2016

Funding Type Levy

Summary

Providing new options for growers to manage the native pest Fruit Spotting Bug (FSB) is the intended outcome of this project. A major native pest in a number of subtropical and tropical horticultural crops in Australia, FSB is known to cause significant damage to more than 25 different tree fruit and nut crops and some vine fruits through the coastal and sub-coastal areas of Queensland, northern NSW, the Northern Territory and north west Western Australia. Most damage is manifested as spots or cracks on developing or mature fruit, or as splits, water-soaked marks or wilting in the vegetative growth of crops such as papaya, cashews and table grapes. Crop losses of more than 50 percent have been attributed to FSBs, and while overall losses to them are difficult to quantify they could amount to tens of millions of dollars annually across all industries.

Until now, using a single targeting approach, namely broad-spectrum insecticides, has been the only management option for growers. This approach is not sustainable in the long-term.

In addition, it has also become apparent that a single strategy approach from different research teams has not been able to find a solution for FSB management and therefore a multi-target approach is suggested.



MT12001**SPLAT Cue-Lure based management of Queensland fruit fly**

Service Provider South Australian Research and Development Institute (SARDI)

Project Leader Dr Peter Crisp

Start Date 1/05/2013

End Date 29/02/2016

Funding Type Levy

Summary

This project aims to assess the efficacy of SPLAT cue-Lure (Isca Technologies USA) as a management option for control of *B. tryoni* in adverse range of susceptible crops such as summer fruit, citrus, mangoes, banana, cherry and avocado. The pest control methods developed as part of this research are likely to be able to be transferred to other susceptible crops including apples, pears and tomatoes. The SPLAT cue-lure uses Cue-Lure to attract male *B. tryoni* and spinosad as a toxicant. This use of SPLAT with cue-Lure is a form of male annihilation technique (MAT) which has been successfully used for fruit fly management in a number of countries but has usually involved less benign toxicants such as maldison. SPLAT is also significantly easier to apply than most MAT systems therefore reducing labour costs. Traditional MAT blocks are canite blocks which must be soaked in a lure/toxicant mix allowed to dry and then attached to trees individually, whereas SPLAT can be applied from a tractor or by air if required. The research will include a series of field efficacy trials in four States to provide data from a wide range of crops and environmental conditions. Laboratory trials associated with the research will investigate the weathering rates to assist with developing and optimising the timing of applications in field base management programs.

While this research project does not include trials on *Ceratitidis capitata* (Mediterranean fruit fly) experience gained, skills developed and knowledge acquired from this project will assist in development of future research and management programs.

MT12029**Horticultural Market Access Manager 2012-2015**

Service Provider Langley Consulting

Project Leader Mr Chris Langley

Start Date 01/10/2012

End Date 30/09/2015

Funding Type Levy/VC

Summary

The Office of Horticultural Market Access (OHMA) is an industry managed, commercially oriented and industry based committee of HIA established to provide industry advice to government agencies for the negotiation of quarantine and non-quarantine market access.

The OHMA undertakes this advisory role principally based on identification of industry priorities and key strategies from industry's perspective. Focus of OHMA is on access for horticultural exports in the context of new and improved market access and also of market maintenance. The OHMA can also address import access particularly where this may have connection to or impact on export access. The OHMA reports to its funding committee which is the AIC as well as to industry as investors and stakeholders.

This project covers the costs for an OHMA Coordinator, whose role is to manage the Office and Work Program, reporting in the first instance to the OHMA Chair and HIA, and more generally to the members of the OHMA committee and ultimately to the AIC and contributing and supporting industries and other stakeholders principally government.

The OHMA's tasks include co-ordination of OHMA meetings, developing the annual market access business plan, developing and managing work programs within the scope of market access and market access R&D, preparing submissions to government on horticultural priorities for access negotiations, and coordinating government meetings with industry (phone, face to face and international meetings) on matters of market access developments and importance.

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Avocado R&D program overview continued

MT12028

OHMA Operational Support 2012 to 2015

Service Provider Horticulture Innovation Australia
Project Leader Mr Peter Whittle
Start Date 01/10/2012
End Date 31/05/2015
Funding Type Levy/VC

Summary

The objective of the market access operational support project for the period mid-2012 to 2015 is to ensure sufficient resources are available to allow OHMA meetings, travel to OHMA meetings by committee members and costs associated with an independent OHMA Chair.

MT12011

National honey bee pest surveillance program

Service Provider Plant Health Australia
Project Leader Mr Rodney Turner
Start Date 15/05/2013
End Date 30/04/2015
Funding Type Levy/VC

Summary

Australia's freedom from many of the exotic pests that affect honey bees overseas provides the honeybee industry advantages in honey production and its ability to deliver paid pollination services. This freedom also provides plant industries reliant on, or responsive to, pollination by honey bee's yield advantages both through access to managed pollination services and the presence of feral bee populations that contribute a significant amount of incidental or 'free' pollination.

A system of national surveillance for early detection of a key pest threat of honey bees such as Varroa mite is an important tool in preventing its establishment. The earlier a new pest can be detected, the greater the chance it will be restricted to a limited area and that eradication will be technically feasible. This project will undertake surveillance for honey bee pests through support for a national program of sentinel hives and sweep netting for foraging bees at high risk ports of entry. This program will have benefits for both the honey bee industry and plant industries dependent on honey bees for pollination.

MT12049

A model for industry planning and preparedness for an incursion of Varroa mite

Service Provider Plant Health Australia
Project Leader Mr Brad Siebert
Start Date 17/06/2013
End Date 30/05/2015
Funding Type Levy/VC

Summary

Australia is the last major honey producing country in the world to not have Varroa mite and the almond industry, which in 2011 had an estimated farm gate value of more than \$250 million and exports totalling \$100 million, has an opportunity to be better prepared and cope with the potential arrival of this pest.

Australia's current freedom from the Varroa mite ensures bee and hive numbers are stable and are able to move within and between all regions of Australia. With a very real threat of Varroa entering Australia complacency is not an option for an industry where production levels are directly related to the availability of bees.

Biosecurity planning and preparedness for a potential incursion of Varroa will provide a mechanism for growers, industry stakeholders, and governments to assess current biosecurity practices, identify gaps and opportunities, and ensure the continued growth and stability of the almond industry in the event of Varroa becoming widely established in Australia.

A key component of Australia's emergency response is centred on planning for potential outbreak of plant pests. Industry's preparedness activities must remain relevant and up to date when contending with continual changes in pest distributions, horticultural practices and biosecurity legislation, as well as keeping up with advances in scientific and technical knowledge.

MT13002

Protecting pollination for the Australian horticultural industry Stage 3

Service Provider Horticulture Innovation Australia
Project Leader Mr Peter Whittle
Start Date 01/07/2013
End Date 30/06/2016
Funding Type Levy/VC



Summary

A major challenge facing Australia’s beekeeping industry is being prepared for an incursion by exotic pests or diseases, with the Varroa mite (*Varroa destructor*) posing the most significant threat. Along with the mite’s impact on beekeepers, it would destroy the population of escaped European honeybees which currently provides incidental pollination on which many horticultural industries now largely rely.

The Protecting Pollination Program is jointly funded by the Rural Industries Research and Development Corporation (RIRDC) and HIA. This program aims to continue the R&D funding by various horticultural industries which are dependent on pollination.

Research activities are based on the Pollination Five-Year Research and Development Plan 2009-2014, which has a goal to ‘support research, development and extension activities that will secure the pollination of Australia’s horticultural and agricultural crops into the future on a sustainable and profitable basis’.



MT13028

Deployment and refinement of bait box remote surveillance system

Service Provider National Centre for Engineering in Agriculture (NCEA)
Project Leader Ms Cheryl McCarthy
Start Date 01/11/2013
End Date 01/09/2014
Funding Type Levy/VC

Summary

Honeybee biosecurity would be greatly enhanced by automatic surveillance of bait boxes. Conventionally, bait boxes installed at Australian ports for the purpose of attracting and intercepting exotic bees have been inspected manually by apiary officers.

NCEA’s recent HIA project MT10063 demonstrated a proof-of-concept technology for remote camera surveillance of bait boxes. Two bait boxes with remote camera surveillance and solar power have been deployed at Brisbane and Cairns and have been operating reliably in 2012/2013. This proposal describes a phased rollout in which a further 20 remotely-monitored bait boxes are deployed provisionally, evaluated and refined at ports around Australia. Specifically, the project will perform:



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Avocado R&D program overview continued

1. Smartphone software development
2. Onsite testing and system refinement leading to development of system specifications for commercial development
3. Database software development.

Following this project, it is expected that a full-scale deployment of the system can commence using external contractors at locations with Telstra Next G coverage.

MT14057

Statistical review and re-design of the National Bee Pest Surveillance Program

Service Provider Plant Health Australia

Project Leader Sam Malfroy

Start Date 25/05/2015

End Date 18/12/2015

Funding Type Levy

Summary

Australia's freedom from many of the exotic pests that affect honey bees overseas provides major benefits for the Australian honey bee industry in terms of honey production, as well as its ability to deliver crucial paid pollination services to a large number of plant industries.

Freedom from honey bee pests provides pollinator-reliant plant industries a range of yield and quality advantages through access to managed pollination services as well as through the presence of feral honey bee populations, which contribute a significant amount of incidental or 'free' pollination.

The National Bee Pest Surveillance Program (NBSP) is nationally coordinated by Plant Health Australia (PHA) and was established in 2012. The NBSP is in place to protect Australia's healthy honey bee population. It provides a means of early detection of a range of exotic pest threats to the honey bee and pollination-reliant plant industries, such as the Varroa mite. The earlier a new pest can be detected the greater the chance that it will be restricted to a limited area and that eradication will be technically feasible.

Since taking over the management of the Program in 2012, numerous improvements have been made. It is one of the leading coordinated bee surveillance programs in the world; however, with greater statistical understanding of surveillance methods, increased funding and a long term funding arrangement secured, further improvements could be made.

This project will involve developing a statistical design that will propose a cost effective and sensitive combination of surveillance methods in an effort to enable early detection, and hopefully, an effective eradication program of an exotic bee pest. This project will help deliver greater certainty to all funding parties on the future of the NBSP, as well as assist in promoting the NBSP to other potential funding parties as a rigorous and

comprehensive surveillance program. This project will also assist in PHA in negotiating a long term funding commitment from plant industries, the honey bee industry and governments from 2016/17.

Objective 2: To increase demand for Australian avocados

AV14006

Continuation of health professional education and research program

Service Provider Lisa Yates Consultant Dietician

Project Leader Ms Lisa Yates

Start Date 01/07/2014

End Date 30/05/2015

Funding Type Levy

Summary

The 2014/15 program will build on the success already achieved over the past two years of educating health professionals about the key avocado health messages of:

- Folate for healthy babies
- Healthy fats for healthy hearts
- Nutrition consultation to other Australian avocado agencies.

The program aims to educate health professionals who give 'permission' to consumers (their clients) directly to enjoy regular avocado consumption as part of a healthy diet.

This project aims to expand the program in 2014/15 to include the role that healthy fats play in managing diabetes. The program includes the addition of diabetes educators as a new health professional target audience to complement the existing audiences. As there is a degree of overlap between diabetes educators with the current audiences this is a complementary extension.

AV14007

Continuation of foodservice Chef Training Program

Service Provider Whiteworks

Project Leader Stewart White

Start Date 1/10/14

End Date 26/6/15

Funding Type Levy

Summary

The key objective of the Chef Training Program is to educate chefs about Australian avocado seasonality, varieties, storage, handling and cooking possibilities to ensure fresh avocados are included as a hero ingredient in menu design. The program aims

to encourage multiple and creative usage of fresh avocados as well as encourage year round usage to increase overall demand.

Now in its sixth year the program aims to facilitate training events for apprentices plus middle and upper tier qualified chefs. Conducted in a masterclass format showcasing innovative usage ideas and recipe development chefs can increase menu penetration and target meal usage of avocados.

The program funding for 2014/15 has been significantly reduced versus previous years as a result of decisions made by the Avocado IAC. The implication for the program is a reduced number of master-class events limited to the Sydney, Brisbane and Melbourne only. The programs primary focus will be on the core restaurant channel as well as continuing the educational work with apprentices established through the TAFE system.

AV14008

Campaign Tracker: Research proposal for the repeat of the project accelerator tracking

Service Provider BDRC Jones Donald Pty Limited

Project Leader Ben Selwyn

Start Date 25/10/14

End Date 31/12/14

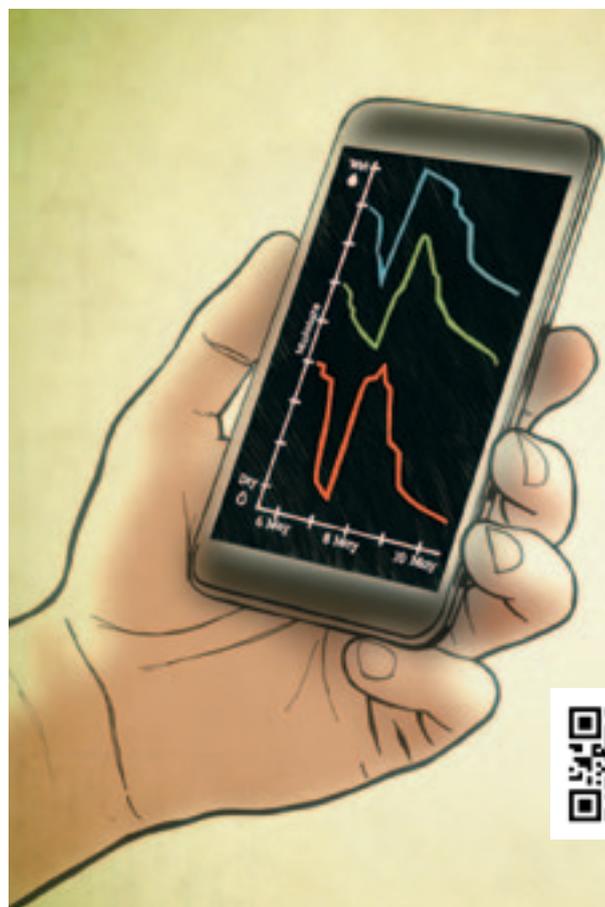
Funding Type Levy

Summary

This research involves a quantitative assessment of consumer awareness of and response to new Avocado consumer communications activity first launched into market in May 2014. Consisting of two waves of research (timed to follow each burst of media activity - April and September), each wave will involve a 15 minute structured online interview, collecting a nationally representative sample of n=1,300 Main Grocery Buyers (MGB).

With a focus on the overall objective of delivering insight into the effectiveness of the consumer communications campaign in generating increased demand for Avocados, it will offer insights into optimal marketing strategy moving forward. Specific outcomes will also include:

1. An evaluation of the campaign reach. Has the campaign successfully cut through to the segments identified as having the greatest growth potential?
2. Clear guidance around key-takeouts from the communications. Did the segments take the intended message from the communications?
3. An evaluation of the impact the campaign has had on consumer behaviour. Have MGBs who have seen the communications change their purchasing and consumption volume?



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MEA

Avocado R&D program overview continued

4. A developed roadmap for the ongoing communications strategy and education.

At the completion of this second wave of research, findings informing each of these elements will be provided in a PowerPoint report, alongside an integrated presentation to the team at HIA and Avocados Australia.

MT13061

Understanding the Purchase Behaviour of Fresh Produce Consumers

Service Provider	Nielsen
Project Leader	David Chenu
Start Date	26/06/2014
End Date	30/06/2016
Funding Type	Levy

Summary

Australian horticultural industries, especially those involved in the production and/or marketing of fresh fruit and vegetables, have a strong desire to increase the consumption of their products. To increase consumption, industries recognise they need effective market research to better understand consumers.

This market research carried out in this project will include the use of Homescan Consumer Data, Woolworths Retail Scan Data, professional analysis of the data collected and reporting of industry trends and market development strategies associated with the insights gained.

Retail Scan Data analysis and Homescan Consumer Data analysis will be analysed in tandem by external experts to optimise their value. Participating industries will receive customised service, analysis and reports from a contracted analyst. This project has been structured to appeal and add value to HIA's diverse range of large and small horticultural industries, with analysis being driven by each industry's unique needs.

MT14013

Australia Fresh - Core Export Market Development Program 2014-2017

Service Provider	Oliver and Doam
Project Leader	Mrs Agnes Barnard
Start Date	01/07/2014
End Date	30/06/2017
Funding Type	Levy

Summary

There is a growing concern among local horticulture industries on the oversupply in the domestic market due to increased production trends and competition. Furthermore increasing imports has raised interest within the sector into developing new viable markets outside of Australia. Australia Fresh program has therefore been reviewed and remodelled to address current export needs among industries.

Australia Fresh is the umbrella program for multi-industry export development for Australian horticulture. The new Australia Fresh model has been structured to provide the flexibility for industries to plan the extent of their participation depending on their current and future needs. Participation is through the core program (export market development) and the user pays program (export marketing promotions).

MT14014

Multi Industry Fruit Tracking Study 2014-2015

Service Provider	Eidentify
Project Leader	Mr Dan Banyard
Start Date	01/07/2014
End Date	01/08/2014
Funding Type	MK/Levy

Summary

Fruit Tracking Study is a longitudinal quantitative research study that provides an ongoing measure into the effectiveness of marketing and advertising investment. It also acts as a consistent and valuable measure into tracking top line attitudes and awareness of fruit purchasing consumers.

The main aim of this market research study is to record changes over time to consumer attitudes and behaviour across the core fruit categories of Apples, Pears, Bananas and Avocados. This includes measuring key consumer attitudes, usage, purchase frequency and location as well as awareness of any primary or residual advertising in the market.

The research is carried out using six waves per year (n=300) collecting information using an online survey. A random but representative audience of Australian wide consumers aged 18+ years completes this survey each wave. To qualify consumers must have bought at least one of the core categories in the last 3 months. These waves are then reported in three combined survey reports in July, November and March of each year. As this is a continuous tracking study it is essential that the core questions within the survey remain consistent as well as the timing of the surveys.



Objective 3: Appropriate organisation, resourcing & management of affairs to support the development of the industry

AV09015

Avocado research capacity building

Service Provider Horticulture Innovation Australia

Project Leader Sharyn Casey

Start Date 1/12/2009

End Date 30/01/2015

Funding Type Levy

Summary

There is little transfer of knowledge with our current researcher base due to reduced support from State Government Departments and other R&D organisations. In five years the industry will potentially lose over 50 percent of its researcher based knowledge capacity.

The industry seeks to undertake a process that will increase PhD numbers in the areas of need for the avocado industry's research priorities. The process would involve the integration of four PhD student projects into the current R&D program. Each PhD project would allow the extension of an area of research that would not necessarily be possible under current funding arrangements.

The steps in undertaking the selection of a research project and PhD candidates would involve the following:

1. The identification of suitable institutions to develop a partnership approach with
2. The identification of a suitable project to tie in with the current program
3. Invitation/advertising of the scholarship
4. HIA/IAC undertake a selection process
5. Once selected and contracted project managed as per any other HIA avocado project, i.e. milestones, reports etc. This project will act as parent with each scholarship awarded being a child.

AV10008

Avocado Industry Communications

Service Provider Avocados Australia Limited (AAL)

Project Leader Mr John Tyas

Start Date 01/05/2011

End Date 30/10/2015

Funding Type Levy

Summary

To remain competitive in domestic and overseas markets the Australian avocado industry needs to be constantly informed about emerging information, trends and issues that can impact on the commercial returns of producing/supplying avocados.

The Avocado Industry Communications project strives to inform and engage all stakeholders ranging from growers, suppliers, exporters and importers, wholesalers, retailers, decision-makers from government and non-government organisations, the media and the general public. This project is responsible for producing and implementing numerous communications vehicles that directly target these stakeholder groups.

Through effective communication, avocado growers (levy payers), receive up-to date information regarding challenges confronting the industry, available opportunities, along with research and development outcomes which will benefit the profitability and sustainability of the Australian avocado industry.

AV12700

International networking

Service Provider Avocados Australia Limited (AAL)

Project Leader Mr John Tyas

Start Date 14/06/2013

End Date 29/05/2015

Funding Type Levy

Summary

This international networking project will provide opportunities for the leaders of the Australian Avocado Industry to make contacts and connections with various stakeholders within the trading, importing, exporting, food service and retail sectors globally.

The information and communication networks that are gleaned from global congresses, and key research areas that can use and leverage limited resources from different countries, are invaluable and will enable the Avocado Industry to keep connected with global markets and across industry issues and trends.

It is vital to develop opportunities for the Australian industry through international networking, as it will provide links to potential export markets for Australian growers. Importantly, it will also provide an insight into how overseas markets and supply chains operate. Other benefits of international networking include:

- Reaching growing markets overseas
- Allowing the Australian Avocado Industry access to overseas technological advancements with the information enabling local growers to improve the efficiency and effectiveness of their operations. These advancements will benefit growers, members of the supply chain, as well as distributors of produce.

Avocado R&D program overview continued

AV13910

Avocado Consultation Funding Agreement 2013-14

Service Provider Avocados Australia Limited (AAL)
Project Leader Craig Perring
Start Date 15/09/2013
End Date 31/10/2014
Funding Type MK / R&D Levy

Summary

Funding of activities for IAC Meetings, Annual Levy Payer Meeting & Consultation on Levy Program.

MT14055

Driving Collaboration in Australian Horticultural Research

Service Provider Flourish Communications
Project Leader Victoria Taylor
Start Date 27/03/2015
End Date 31/05/2017
Funding Type Levy/VC

Summary

The National Horticultural Research Network (NHRN) was formed in March 2001 and comprises the Horticultural R&D managers from the State agricultural agencies, CSIRO, the Tasmanian Institute of Agricultural Research (TIAR), the Australian Council of Deans of Agriculture and HIA. Before HIA investment, these organisations provide nearly \$90 million annually for horticultural research and development.

NHRN provides a senior national forum for horticultural RD&E coordination and inter-agency communication to drive integrated national programs and activities. The NHRN is committed to a vision of focused and cohesive research, development and extension that underpins a vibrant and growing horticultural sector.

Under MT08042, and amongst other programs, the NHRN developed the National RD&E Framework for Horticulture.

Under this new project, a major role of NHRN will be to implement the framework according to the summary of the NHRN Strategic Plan as supplied at Attachment 1 and summarised in the proposal. Added to this the NHRN continues as the body facilitating:

- the rapid capture, collation, analysis and reporting of national data horticultural RD&E data
- the rapid developments of a national position amongst the state and commonwealth agricultural agencies on the key issues in horticultural RD&E.

MT14058

Asia Fruit Logistica 2015

Service Provider Oliver and Doam
Project Leader Agnes Barnard
Start Date 01/04/2015
End Date 30/11/2015
Funding Type Levy/VC

Summary

Asia Fruit Logistica is Asia’s leading trade show for the international fresh fruit and vegetable business. It is the only trade exhibition in Asia to focus exclusively on the fresh produce sector and related value chain for the whole Asian region.

In 2015, the Australia Pavilion will see 16 co-exhibitors joining forces, with following overall objective:

- To showcase the Australia Horticulture Industry
- To build and maintain a network of fresh produce buyers primarily from Asia but secondarily from the rest of the world
- To build the image of Australia as a primary source of high quality fresh horticulture products
- To build presence of Australian fresh fruits, vegetables and nuts among Asian buyers.

Asia’s growing importance as a market for the global fresh fruit and vegetable business is a key contributing factor to the growth of this particular trade show. In response to that, this year, 276 square meters floor space was strategically acquired in order to increase foot traffic and visibility.

This project was identified to be in line with HIA strategic views and crucial to further assist export trade development opportunities.

AV14800

Avocado Industry Advisory Committee Annual Report 2013/14

Service Provider Horticulture Innovation Australia
Project Leader Ms Barbara Knezevic-Marinov
Start Date 01/07/2014
End Date 30/06/2015
Funding Type Levy

Summary

Reporting on all industry projects that had funds expended in 2014/15.



Across Industry Program

The Across Industry R&D program was funded through matched R&D levies and voluntary contributions under the HAL system. A contribution of three percent from all HAL-funded R&D projects is allocated to the Across Industry program to fund much needed

R&D that is of benefit to all horticulture industries. Below are the projects that were endorsed for inclusion in the 2014-15 Across Industry program.

Further information is available from Warwick Scherf, HIA, warwick.scherf@horticulture.com.au or call 02 8295 2323.

Project No	Title	Project Start	Project Completion	Organisation
Objective 1: To enhance the efficiency, transparency, responsiveness and integrity of the supply chain.				
AH12016	Partnering Fresh Produce with Retail: Quality Assurance Harmonisation	15/05/2013	30/06/2015	Kitchener Partners
Objective 3: Position horticulture to compete in a globalised environment				
AH09027	Investing in Youth Successful Scholarship Applicant	31/05/2010	31/03/2015	Rural Industries R&D Corporation (RIRDC)
AH11009	Autonomous Perception Systems for Horticulture Tree Crops	1/05/2012	27/11/2015	University of Sydney
AH12019	Horticulture Leaders - Across Horticulture Leadership Training - 2013 and 2014 programs	3/06/2013	31/05/2015	Strategic Business Development Pty Ltd
AH13020	Horticulture Information Unit	1/08/2013	28/02/2016	Horticulture Innovation Australia
AH14006	Horticulture Nuffield Scholarships 2014/2015	10/07/2014	30/06/2016	Nuffield Australia Farming Scholars
AH13033	Investing in Youth Successful Scholarship Applicant	26/06/2014	30/06/2017	Rural Industries R&D Corporation (RIRDC)
MT12029	Horticultural Market Access Manager 2012 - 2015	1/10/2012	30/09/2015	Langley Consulting
Objective 4: Achieve long term viability and sustainability for Australian horticulture				
AH10003	Horticulture component of the National Climate Change Research Strategy for Primary Industries	30/11/2011	1/07/2015	Horticulture Innovation Australia
AH11011	Horticulture funding of the CRC for Plant Biosecurity	30/06/2012	30/05/2018	CRC For National Plant Biosecurity
AH11029	Provision of independent technical and secretarial services to the National Working Party for Pesticide Application	20/12/2011	31/05/2015	Plant Health Australia
AH13023	Industry Development Forum with International Horticulture Congress	17/02/2014	30/06/2015	Horticulture Innovation Australia
AH13027	Plant protection: Regulatory support and co-ordination - Continuation of AH09003	31/05/2014	1/07/2018	AKC Consulting Pty Ltd
MT10029	Managing pesticide access in horticulture (cont. from AH04009 and MT07029)	1/07/2010	2/07/2015	Horticulture Innovation Australia
MT10049	A multi target approach to fruitspotting bug management	1/02/2011	6/05/2014	NSW Department of Primary Industries
Objective 5: Other				
AH11023	Graham Gregory Award and Function	1/07/2011	30/06/2016	Horticulture Innovation Australia
AH14007	Support Function for AIC continuation of AH11003	1/07/2014	30/06/2017	Horticulture Innovation Australia
AH14008	Across Industry Program Administration continuation of AH11026	1/07/2014	30/06/2017	Horticulture Innovation Australia
AH14800	Across Industry Annual Report 2013/14	1/07/2014	30/06/2015	Horticulture Innovation Australia
MT12028	OHMA Operational Support 2012 to 2015	1/10/2012	31/05/2015	Horticulture Innovation Australia

The Small Tree High Productivity Initiative, researching the orchards of the future

Dr John Wilkie, Helen Hofman, Dr Neil White, Peter Rigden (all Department of Agriculture and Fisheries, Queensland) and Dr Jim Hanan (Queensland Alliance for Agriculture and Food Innovation).

In November 2013, Queensland's Department of Agriculture and Fisheries (DAF) began an ambitious initiative, working towards transforming the productivity of subtropical and tropical tree crops, focusing on avocado, macadamia and mango. The Small Tree High Productivity Initiative is a major collaborative research program involving 30 researchers from DAF, the Queensland Alliance for Agriculture and Food Innovation (QAAFI) and the NSW Department of Primary Industries (DPI), and is co-funded by Horticulture Innovation Australia Limited (HIA). The project was inspired by the large gains in productivity achieved by some temperate tree crops over the last 30-40 years, particularly apple. Commercial yields of apple have increased from 10-15 tonnes/ha in the 1970s to 60-100 tonnes/ha in today's high density plantings.

The avocado component of the program involves a diverse team of scientists from disciplines that include plant physiology, plant modelling and molecular biology, working from the Bundaberg Research Facility in central Queensland and from Brisbane. To provide advice on industry practices and practical advice on the management of trials, we have also established an avocado trial advisory group consisting of leading growers and consultants.

The research program focuses on four main aspects of orchard production that can limit or drive productivity:

- **Vegetative vigour** - understanding how to effectively manage vegetative vigour using rootstocks, pruning strategies for canopy manipulation and growth regulators.
- **Architecture** - understanding natural patterns of vegetative growth, flowering and fruiting and the potential to manipulate these through pruning and training.
- **Canopy light relations** - quantifying the role of light in flowering and fruiting and exploring the use of pruning and training systems to optimise light patterns.

- **Crop load** - developing an understanding of the physiology of crop load and improving our ability to effectively manage crop load and maximise yields.

These four areas are highly interdependent and the overall aim of the project is to combine scientific understanding and practical management strategies into an integrated system that can be adopted by growers. There are three main tools for integration in the project:

- testing the effects of a range of planting densities, training treatments, canopy management and crop load regulation techniques in a 'planting systems' field trial;
- using plant modelling to understand how the four orchard systems components being studied interact; and
- using molecular and DNA research techniques to understand genetic regulation of floral initiation, shoot architecture and juvenility.

Several trials have been established in the Bundaberg region.

Planting Systems Trial

The main aim of this trial, planted in July 2014 at DAF's Bundaberg Research Facility, is to understand the effects of planting density, rootstock vigour and a range of tree training strategies on productivity.

The trial has been planted to Hass on two rootstocks, Velvick and Ashdot, that is, a high and a low vigour option. We are testing the effects of three different planting systems:

- Conventional plantings at a density of 9m x 5m (222 trees/ha). These trees will be pruned according to industry standard practice. To date, we have left these trees largely unpruned (Figure 1).
- Medium density plantings at 6m x 3m (556 trees/ha) in which the trees are being pruned and trained to maintain the dominance of a central leader with a limited number of lateral scaffold limbs (Figure 2).
- High density plantings at 4.5m x 2m (1111 trees/ha). We have begun to train these trees to a central leader growing



with the support of a vertical trellis, and to subject them to canopy manipulations such as limb bending in an attempt to reduce vigour and increase early fruiting (Figure 3).

We have begun a comprehensive program of measuring the position, size and orientation of growth units (flushes), branches and, beginning this year, inflorescences, using a recording system known as a 'multiscale tree graph'. The purpose of this assessment is to understand the patterns of vegetative growth, the responses to our pruning and training strategies and relationships between vegetative growth and fruiting. This information is being used to develop a computer based model that can be used to predict growth under different environmental and management conditions.



Figure 1. Industry standard density (9 x 5m) Hass avocado with little pruning undertaken in the first year as per industry standard.



Figure 2. The medium-density (6 x 3m) central leader trained Hass avocado.

Crop load trial

In spring 2013 we established a trial to help understand some fundamental questions around the development of crop load for Hass avocado. Our first aim was to understand the main factors limiting the development of fruit load in Hass. Our second aim was to develop a general whole-tree understanding of how crop inflorescence number, fruit set, vegetative growth, fruit size and final yield relate to each other. We created trees with a wide range of crop loads by removing varying percentages of the inflorescences on the experimental trees (from 0 to 95% removal) and measured the resultant fruit set, fruit size, yield and vegetative growth in May 2014.



Figure 3. High-density (4.5 x 2m) Hass avocado trained as a central leader to a vertical trellis in April 2015, approximately 10 months after planting.

The Small Tree High Productivity Initiative continued

We found that yield per tree increased with inflorescence number (Figure 4), that is, low flower panicles numbers lead to low yield and high flower panicles numbers led to a high yield. Hass avocado did, however, demonstrate an ability to compensate for low flower panicle numbers by increasing fruit set per panicle and increasing fruit size (Figure 5). There was a highly significant effect of the resulting crop loads on vegetative growth, with high crop loads leading to less canopy growth than low crop loads (Figure 6). While these relationships may appear to be obvious, in some other tree crops more flowers do not necessarily mean higher yields. These relationships for avocado have never been previously tested and it is important that we are confident that basic assumptions are correct before we embark on more complex research. This year, we are measuring return flowering and yields to assess any alternate bearing patterns.

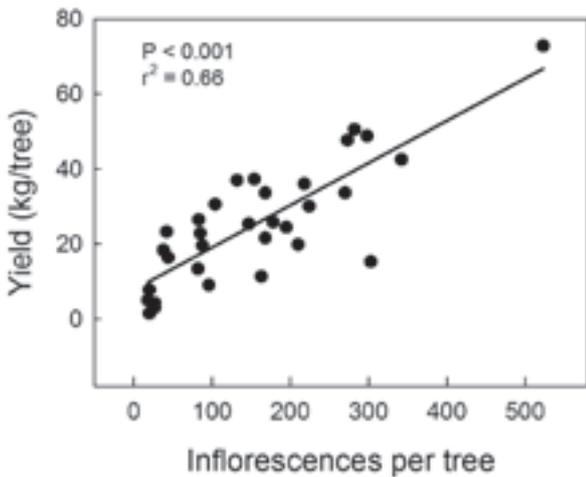


Figure 4. The effect of inflorescence number per tree on fruit yield per tree of 3-year-old Hass avocado.

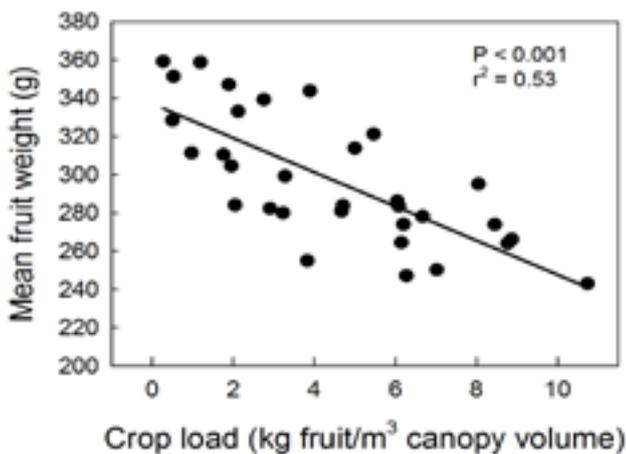


Figure 5. The effect of crop load at harvest (kg of fruit per m³ of canopy volume) on mean fruit weight for 3-year-old Hass avocado.

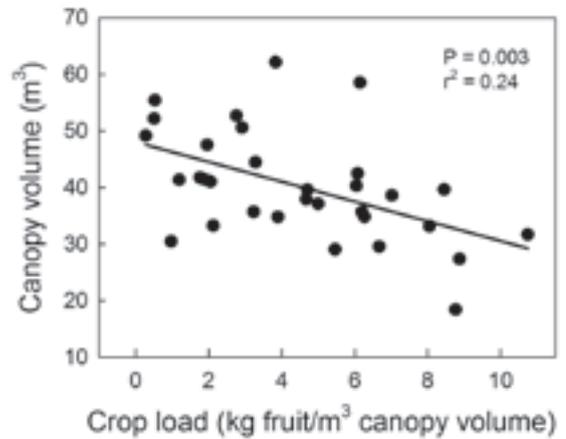


Figure 6. The effect of crop load at harvest (kg of fruit per m³ of canopy volume) on canopy volume at harvest.

In spring 2014, we established a second site to try and manipulate the competition between young fruit and the spring vegetative flush to increase fruit set and retention. We fully or partially tip pruned the vegetative flush as it emerged from the inflorescence on a weekly, or one-off basis (Figure 7). The aim of the partial tipping was to reduce competition at this early stage but allow the remaining leaves to 'feed' the young fruit and increase fruit retention. In addition, in some treatments we applied a growth regulator Cytolin® (6-benzyladenine and GA 4 +7) to the mature spring vegetative flush to assess whether it stimulated additional branching in the summer flush and thus increased fruiting sites in the next season. We will begin to assess the effectiveness of these strategies at harvest this year.





Figure 7. Technical Officer Jarrad Griffin 'tipping' spring vegetative shoots.

Rootstocks for high-density orchards

Rootstocks are an important aspect of managing scion vigour and yield efficiency (fruit per unit canopy volume) in avocado. To determine which currently available rootstocks are more suitable for high-density planting systems, and to try to understand which characteristics make them more suitable, we are selecting rootstocks that are currently available in Australia to test in a high-density screening trial. After this material has been propagated, the trial will be planted at the Bundaberg Research Facility in 2016.

The virtual tree

Using sophisticated software and data from our trials, computer models can be developed to provide a 'virtual' tree that can be used to predict growth in response to environmental factors such as temperature and light. The model can be further developed to include 'carbon allocation' data, that is, how the tree distributes the products of photosynthesis to the different organs: roots, shoots, leaves, flowers and fruit. Developing the model is a lengthy process:

- Initially a prototype model is developed from basic assumptions and hypotheses on how the tree grows and responds to events such as pruning and bending of limbs.

- Data relating to the tree architecture (such as leaf number and size, shoot orientation and size, internode length, flower number, fruit yield and light levels within the canopy) are collected from differently managed (e.g. pruning, planting distance) trees in our trials or in commercial orchards.
- The prototype model is tested against the observations and the model is amended where required to provide a closer match.
- This process is repeated many times until a model has been developed that reliably reflects the trees' growth and its interaction with the environment.

Models of this type are of great value in exploring options and improving the efficiency of planning trials and experiments, thus reducing the cost of research and providing results in a shorter time. In this project, we aim to simulate different canopy architectures to see which will intercept light most efficiently and maximise yields.

Acknowledgements

The Small Tree High Productivity Initiative is an initiative of the Queensland Government, which focuses on improved productivity of mango, macadamia and avocado. Major partners include the Department of Agriculture and Fisheries (DAF), DAF's research alliance with The University of Queensland (Queensland Alliance for Agriculture and Food Innovation), and the NSW Department of Primary Industries.

This project has been funded by Horticulture Innovation Australia Limited (HIA) using the Across Horticulture levy with co-investment from the Queensland Department of Agriculture and Fisheries, and funds from the Australian Government. We are especially grateful to HIA and the various associated industries and horticultural businesses for their support for this initiative.

We would also like to acknowledge Birdwood Nursery and Andersons Horticulture for access to trees for our Planting Systems Trial; the Donovan family, Simpson Farms and Laurie McCloskey for their generous support for trial work in their orchards; and Chad Simpson, Simon Grabbe, Dr Chris Searle, Lachlan Donovan, Laurie McCloskey, Tom Redfern and Simon Newett for participating in the trial advisory group.



Industry Profile

By Kristy Lankester, Communications Manager,
Avocados Australia Limited

Australia has a world class biosecurity system that works with our geographical isolation to maintain the industry's relative freedom from many of the worst pests and diseases. This article gives an overview of the not-for-profit coordinators of the plant biosecurity system, Plant Health Australia (PHA) and how the company operates to benefit the Australian avocado industry.

About PHA

Plant Health Australia (PHA) is the national coordinator of the government-industry partnership for plant biosecurity in Australia. Avocados Australia is a financial member of PHA. PHA works with the state and federal governments and industry representatives to promote strong biosecurity practices that minimise plant pest impacts on Australia, enhance market access and contribute to industry and community sustainability.

PHA has a proud history of achievement in brokering agreements and arrangements that have improved the plant biosecurity system. The company has led the development of partnerships as well as tools, information and networks, to reduce the threat from plant pests.

While the work of PHA is mostly visible during emergency responses to exotic pest incursions such as banana freckle in the Northern Territory, much company activity involves risk management activities that aim to reduce the risk in the first place. PHA brings together stakeholders to improve threat prevention and biosecurity preparedness along the continuum from pre-border to post-border, through measures including pest risk assessments, industry plans, on-farm awareness programs, contingency plans on how to deal with exotic pests, and surveillance to check that pests are not present.

Greg Fraser, CEO and Executive Director of PHA said they are proactive about exotic plant pests.

"Preventing and preparing for incursions brings the best return on investment for biosecurity resources," Mr Fraser said. "In other words, prevention is better than cure. The avocado industry has remained free from serious exotic pests of production, and PHA works with governments and the avocado industry to keep it that way."

How PHA operates

PHA is a not-for-profit public company based in Canberra which was established in April 2000 following a recommendation of the 1996 Nairn Review of Quarantine for the establishment of a national coordinating body to deal with plant biosecurity. PHA is funded by subscriptions from three groups of members:

1. one-third from the Australian Government
2. one-third from the state and territory governments
3. one-third from plant industry (and honey bee) peak industry bodies, including Avocados Australia.

Plant Health Australia



Plant Health
AUSTRALIA

Mr Fraser said this unique structure confers independence and impartiality allowing PHA to put the interests of the plant biosecurity system first, and to support a longer-term perspective.

"In addition to subscription-funded activities, PHA undertakes separately funded projects for individual members or for groups of members with common biosecurity issues. Through PHA, current and future needs of the plant biosecurity system can be mutually agreed, issues identified and solutions to problems found," said Mr Fraser.

Current activities of benefit to the avocado industry

In 2011, PHA brought together representatives from the Queensland government, Avocados Australia and growers to develop the *Industry Biosecurity Plan for the Avocado Industry*. The plan identifies key exotic pest threats to avocado production and documents an agreed approach to mitigating the risks of these pests, including surveillance activities and the development of contingency plans for particular pests. Also in 2011, PHA produced a manual for growers of avocados, detailing biosecurity practices that can be used to protect orchards from plant pests.

PHA is custodian of the Emergency Plant Pest Response Deed (EPPRD), the arrangement that sets out how responses to incursions of serious exotic plant pests are handled and cost shared. Avocados Australia is a signatory to the EPPRD, providing the industry and individual farmers affected by eradication efforts with significant benefits.

"The EPPRD is an important document that ensures all signatories to the Deed are clear on their roles, responsibilities and obligations in responding to incursions of exotic plant pests," said John Tyas, Avocados Australia CEO.

A PHA program specifically for producers is the Farm Biosecurity program run in conjunction with Animal Health Australia to provide advice on best practice biosecurity. The website for the program, www.farmbiosecurity.com.au contains information for producers of all kinds, together with videos, a farm planner, forms, templates for record keeping and farm biosecurity signs.

Reacting to a biosecurity threat

When a suspected Emergency Plant Pest (EPP) is discovered somewhere in Australia, PHA ensures that the response to eradicate the pest is carried out in line with the provisions of the EPPRD. When the alarm is raised about a possible EPP, the state government is the frontline agency that puts in place the quarantine zones, carries out surveillance to find out how far the

pest has spread, destroys affected plants and the other activities associated with containing and eradicating the pest.

Decisions on what a response will entail are taken by a Consultative Committee and a National Management Group, which are assembled from government and industry signatories affected by, or likely to be affected by, the EPP. This way all parties involved get to have a say, if they're signed up to the EPPRD.

In addition to ensuring that activities are carried out and cost shared in accordance with the EPPRD, PHA makes sure that the administrative requirements of the EPPRD are maintained, and works with signatories to amend the agreement to keep it current and as effective as possible. There have been a series of improvements since its ratification in 2005.

The importance of plant biosecurity in Australia

As an island long separated from species from other continents, Australia is fortunate to be free of many plant pests that make plant production impossible or expensive in other parts of the world. Mr Fraser says now that travel and trade are commonplace, Australia's world class plant biosecurity system functions to keep exotic pests out of Australia.

"There are tough restrictions on bringing food and other items that are potentially contaminated into the country for both travellers and importers. Packaging material too is subject to international phytosanitary controls to protect against pests. These are examples of border and pre-border measures that are largely undertaken by the Australian Government."

Within Australia too, there are a range of activities including interstate and regional domestic quarantine requirements to prevent regionalised pests from spreading, surveillance

programs to check for any incursions, diagnostic networks ready to assess any suspect pest and farm biosecurity, which of course, is where avocado growers come in.

"Everybody has a role to play in biosecurity and for growers, it is ensuring that they build sensible farm biosecurity practices into their everyday activities to protect their enterprise and the industry. The practices that all growers should be implementing are detailed in the Orchard Biosecurity Manual which can be downloaded from the PHA website or via the Avocados Australia Best Practice Resource."

Mr Fraser explains that while some measures, such as installing wash down bays do require capital investment, many are simple such as cleaning knives regularly when grafting, only sourcing new planting material from reputable suppliers and disposing of all plant waste effectively.

"These measures will prevent new weeds from entering the property as well as any exotic plant pests that make it through border controls into Australia. Waiting until there is a pest alert to alter routines and practices may be too late."

PHA ensures independence in decision making to maintain and improve Australia's plant biosecurity system. The company's remit is to improve national biosecurity outcomes through partnerships. Bringing government, industry and research organisations together, PHA ensures that dollars spent on biosecurity are achieving maximum benefit. By working together, PHA helps to make the whole greater than the sum of its parts.

To find out more about PHA, visit the website www.phau.com.au and click on **Industries** to read more about avocado biosecurity. Visit the farm biosecurity website www.farmbiosecurity.com.au for generic advice for both plant and animal producers on how to safeguard their enterprises from weeds, pests and diseases.



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Supporting our retailers in delivering quality avocados

By John Tyas, CEO Avocados Australia

Increasing demand for avocados in Australia is a high strategic priority for the industry, and improving the quality of fruit available to consumers at retail level is a key focus area. Although quality is impacted by practices right along the supply chain, we know from recent research that a lot of damage is occurring at retail level.

Over the last four years, fruit and vegetable retailers in the major capital cities have been supported by a retail training program specifically designed to promote avocado best handling practices to ensure that avocados presented to consumers are at their best. We have recently completed a detailed analysis of this program and some of the results are presented here.

Avocados Australia, through a HAL/HIA* funded project have employed part-time contractors to visit supermarkets and independent retailers to educate produce managers and their staff about avocado handling, storage, presentation and other issues that have an impact on product quality and sales. At the same time they have been distributing training material and assessing the job that the retailers are doing.

The project is overseen by Nathan Symonds, Supply Chain Program Manager at AAL. "By assessing what retailers do, we are able to see where there are ongoing issues and adjust the focus of the training or update the training material we are providing. Our aim is to support retailers so they can provide the best quality avocados to consumers."



Robby Guardala, Indooropilly Fruit - one of the high performing stores that have been involved in the retail training program

Over the last three financial years (2012 - 2014) Avocados Australia contractors have made over 3,800 store visits to retailers in Brisbane, Sydney, Melbourne and Perth. In addition to the training delivery, information about sourcing practices, store displays, fruit handling practices, fruit quality, sales volumes, staff knowledge and training support is collected. Stores are also given an overall rating from 1 - 5 where 1 represents *Store has significant problems and quality of avocados is not acceptable*

for consumers and where 5 represents Store has very little, if anything to improve in regard to avocados. They are going above and beyond for their customers.

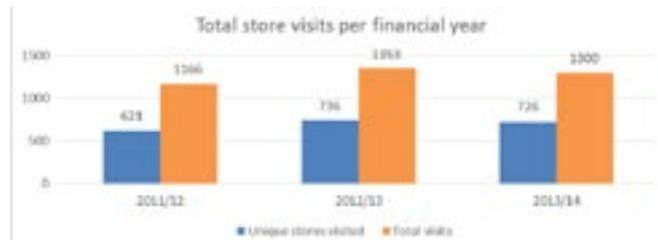


Figure 1: Over the last three financial years (2012 - 2014) Avocados Australia's contractors have made over 3,800 store visits to retailers in Brisbane, Sydney, Melbourne and Perth.

The aim of the project has been to visit stores every 6 months hence it is possible to compare data related to store performance over time. Analysis shows that when comparing the rating of a store between the first and last visit made by the contractor, 37% of stores have improved their rating, 44% have remained the same, whilst for 19% of stores their rating decreased. It is important to note that some of the stores that stayed the same, were already performing at optimal levels. It was also notable that at the last visit conducted by the contractor, 66% of stores received a store rating of 4 or 5. This was an increase from 53% on the first store visits, so the program is definitely having an impact.

Changes in overall store rating

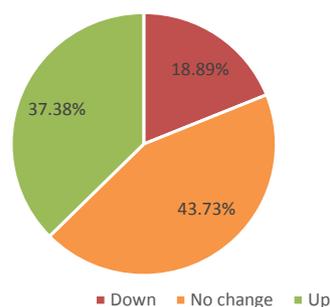


Figure 2: This graph shows the changes in store rating between first and last visits by the contractors over the life of the project.

Figure 3 illustrates the change in store rating for all participating stores over the course of the current project, for all four cities, grouped by store type. These stores have been visited at least twice over the course of the project. The store rating system used was on a scale of 1-5; 1 being the worst and 5 being the best (1 = Independent store; IC = Independent Chain; Independent Supermarket; M1, M2, M3 = Major Supermarket). The proportion recorded as *can't improve* are stores that recorded a rating 5. Some of the stores that have recorded *no change* are actually doing the best job and we wouldn't want to see them change. Figure 4 presents the same data, but shows

the movement of the store rating by store type, grouped to show the overall change.

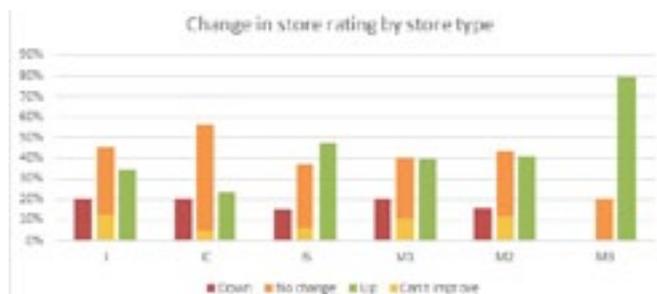


Figure 3: Change in store rating by store type over time based on rating at first and last visit NATIONAL.

Note: The M3 dataset only includes 5 stores of that type as only 5 were given at least two ratings.



Figure 4: Movement of store rating by store type over time based on rating at first and last visit NATIONAL.

Note: The M3 dataset only includes 5 stores of that type as only 5 were given at least two ratings.

Figures 5 and 6 show data similar to the above, but reporting Queensland data only. Queensland was the first region to receive retailer training in this program, so the participating stores in Queensland have had a longer exposure to the education program and therefore greater opportunity for change to be adopted. The data shows an increase in store rating which is higher than the national average.

Analysis shows that when comparing the rating of a store between the first and last visit made by the contractor, 40-60% of participating stores in Queensland (depending on store type) have improved their rating.



Figure 5: Change of store rating by store type over time based on first and last visit QLD.



Figure 6: Movement of store rating by store type over time based on first and last visit QLD.

There are still areas that have been identified where there is a need for ongoing training. These areas include:

- Reducing the amount of damaged fruit visible on displays
- Improving the arrangement of fruit on display to reduce impact on quality and to support consumers in selection of appropriate fruit
- Understanding the benefits of a **Ripe & Ready** program and how to implement this successfully.



Some retailers are adopting 'Ripe & Ready' stickers to help consumers identify ripe fruit, but there is still more work to be done.

Retailers receive the range of training material which has been developed through the supply chain development program that Avocados Australia has been managing for a number of years, with the support of HAL/HIA funding. This includes the *Avocado Ripeness and Colour Chart*, the *Avocado Handling – Retail Chart*, *Ripe & Ready* stickers, *If you're unsure... Listen & Ask* stickers, consumer education material and the *Little Green Book* telling the story of the avocado's journey from the paddock to the plate.

Feedback from retailers has also resulted in the development of additional training material. Retailers indicated they wanted more information about the causes of poor quality in avocados so they could identify issues accurately and discuss it with their suppliers. As a result Avocados Australia has developed a new reference booklet, the **Avocado Retailer Training Manual** which documents key facts about the industry and highlights the

Supporting our retailers continued

quality issues and their causes. Distribution of this new booklet commenced in March 2015.

Another tool currently being developed by Avocados Australia to assist with adoption of best practice is an online *Retail Training Course*. The training course will be composed of four modules - General Avocado Knowledge, Fruit Ripeness and Quality, Handling, Storage and Waste Management of Avocado and Managing Displays and Promotion. This will be housed within the Best Practice Resource in a similar format to other interactive supply chain training modules.

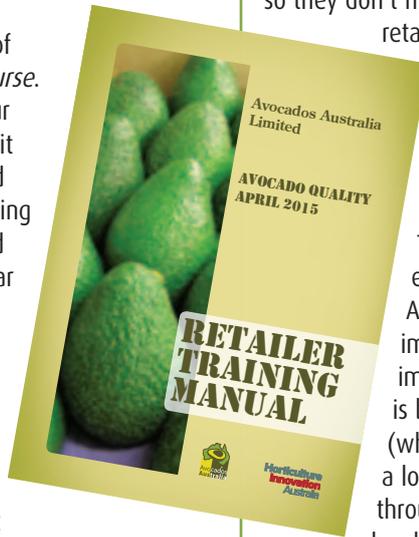
A recent review of the program has recommended that the program be extended by reducing the frequency of visits to higher performing stores and using the contractor's available time to visit more stores across the major metropolitan areas.

"The high performing stores already have the skills and knowledge to successfully manage avocado quality, so it's not

as important to visit these stores as often. We are looking at other ways we can engage with the key staff in these store, so they don't miss out, but our focus now is on seeking out retailers that haven't been involved in the program and supporting those that need a little extra help. We're also starting to work with secondary wholesalers in the market to extend the program to rural and regional fruit and vegetable retailers," said Mr Symonds.

The results from this recent analysis are very encouraging. They show that the effort by Avocados Australia over the past four years to improve retailer practices is having a significant impact. However, given the level of damage that is being recorded through our retail quality surveys (which are undertaken every month) there is still a lot more that we need to do to improve practices throughout the supply chain, particularly at retail level.

*HAL = Horticulture Australia Limited; HIA = Horticulture Innovation Australia - the new funding body that has replaced HAL as of November 2014.



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COMPOSTING

How Simpsons Farms have made a difference

Australia sends more than 21 million tonnes of waste to landfill annually. More than 8.4 million tonnes (approximately 40%) is made up of green organic matter and food waste – waste that can be composted, offering numerous benefits including improvements to soil fertility and plant growth.

According to the Australian Bureau of Statistics (ABS), the horticulture industry is an intensive user of energy and materials, causing high levels of waste. The waste exerts pressure on the environment through the use of fertilisers, pesticides and water usage. The use of recycled organic material in the horticulture industry has the potential to reduce industry reliance on environmentally harmful inputs, reduce the need for water and promote higher crop yields.

Simpsons Farms, located in Central Queensland are doing their part and have set up a composting program in one of their orchards. The program commenced in 2010 with product applied to that particular orchard in order to gain further insights into the benefits, costs and efficiencies for their farming practice.

The benefits of composting

Composting offers many benefits to the industry which includes:

- Improves plant growth
- Increases the capacity of soil to hold nutrients and the ability of plants to resist disease
- Improves drainage in clay soils and conserves water in light sandy soils

- Increases aeration in compacted soil and helps form soil aggregates in poorly structured soil
- Keeps soil cooler in summer and warmer in winter.

Chad Simpson, Agronomist at Simpson Farms said composting is a part of a systems approach to aid in the improvement of orchard health. “The composting program is an integral part of this process which needs to be used in conjunction with other orchard management tools such as drainage and compaction improvements, soil nutrient base saturation ratio/levels and disease management applications.”

Kris Gordon, Director of Simpson Farms, decided to undertake a composting program after visiting a number of sites where compost was being applied and they evaluated the benefits it had on soil and tree improvements. Simpson Farms had prior experience in the logistics of spreading organic materials such as filterpress, therefore the adoption of a composting program was a relatively simple transition. “Some small modifications of a spreader were needed to be able to give an even broadcast over the treatment area,” said Mr Simpson.

Since the program began, Simpson Farms have seen an increase in organic soil matter and tree health across all orchards, quantified by yearly tree evaluations and soil tests.

Return on investment

Upon commencing this program, Mr Gordon understood that the benefits from the composting system were not going



Composting - How Simpsons Farms have made a difference continued

to be realised in the first application. The program would be an ongoing process involving the adoption of other farm management tools.

After six monthly applications since 2011, Simpson Farms is now seeing a reduction in conventional fertiliser requirements, producing economical savings for Simpson Farms. The cost savings incurred from the reduction in fertiliser applications is now compensating for the cost of the composting program. "It is expected that our improving orchard health will provide enhancements in yield and fruit quality which will continue to give a return on investment from this program," said Mr Simpson.



Simpson Farms is currently going through the legislative process to allow them to produce compost on site. Adam Kent of Simpson Farms has the experience necessary to develop and produce high quality compost for the needs of the orchard. "It is hoped that once this process is completed that we will have a self-sustainable composting system that can be modified and developed to the specific needs and requirements of an avocado orchard," said Mr Kent.

"It is extremely beneficial to understand the dynamics of compost to truly be able to rationalise the benefits of a composting program," he said.

Mr Simpson says the process has been worthwhile and recommends other avocado growers consider implementing a compost system, however it is a tool that needs to be used in conjunction with other orchard management systems.

References

Australian Bureau of Statistics: <http://www.abs.gov.au/ausstats>

Useful links

<http://www.compostforsoils.com.au/>

http://www.vgavic.org.au/pdf/r&d_VG99016_Compost_discussion_paper.pdf

<http://www.epa.gov/composting/benefits.htm>

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Avocados get the healthy Thumbs Up

By Sonia Rogers, Bite Communications

Australian avocados were ripe for the media picking over the last quarter as a result of the specific public relations (PR) campaign implemented to support the release of our latest health summary report Australian Avocados – An Update on Nutrition and Health. Magazines and social media around the country featured information from the report that was authored by Australian Avocados consulting dietitian Lisa Yates.

The campaign coordinated by Bite Communications, kicked off in early March with a media information kit sent to the top 30 women's, health and lifestyle magazines around the country. In addition to the kit, journalists from the top 10 magazines were specifically targeted and sent a beautiful hamper of avocados to inspire them to prepare stories.

This media send-out has resulted in the information being included in 11 publications including Better Homes and Gardens, New Idea, Healthy Food Guide and YMCA Healthy Living, a magazine that is distributed to members of YMCA Health Clubs. Popular women's magazine Australian Women's Health also shared the information with people who follow their Facebook, Twitter and Instagram social media pages.

The campaign message had strong reach.

Overall the media outreach generated 101 clips across traditional, online and social media creating a potential reach in excess of 5.6 million opportunities.

The potential reach represents readership figures (not circulation) of each publication or online publication and is an indication of audience potential.

The experience and acknowledgement of Lisa Yates created opportunities featured as a guest blogger across the well-known sites of The Scoop On Nutrition, One Handed Cooks, Be Well Gluten Free and Dr Joe. The activity also generated nine online articles / blogs by third parties including the well-known Joanna McMillan and the Food Coach as well as 85 social media posts including Twitter, Facebook, Pinterest and Instagram.

The campaign generated conversations

The word cloud shows twitter conversations for the days following the health professional database outreach. This word cloud was created using Radian6, a social media tool that allows us to search for public social media posts. Due to the nature of social media and the limitations of searches it is very difficult to find all coverage, however, this provides an indication of the general conversation. Findings from the new research about avocados and cholesterol feature most prominently, as do phrases from the media release.

Key Learnings from the Campaign

Every campaign undergoes a post review to evaluate performance against objectives to learn from the experience and enhance any future activity. These are some insights;

- There is a strong love of avocados among media and health professionals, with both groups very receptive to new research, information and especially avocado deliveries.

*"Yes I love love love avos!
Thanks for this, brill info!"*

- **Lola Berry, nutritionist**

*"I am an avocado fan from way back.
Still very high on my breakfast choices.
Love, love, love them!!"*

- **Karen Inge APD**

"That's awesome.

*Really appreciate you sending that through,
I'd love to share that messaging."*

- **Luke Hines, The Paleo Way**

- The visual content was very important, especially given how beautifully avocados photograph. The infographics boosted social media activity, while there was also a strong level of requests for recipes, which has strengthened coverage.
- The offer of guest blogs helped to drive online content and facilitate the delivery of quality messaging. It was a win:win by providing bloggers with high quality content that's of interest to their readers.



Australian Avocado Nutrition Program's Conference Exhibitions

*By Joseph Ebbage, Marketing Consultant
Avocados Health & Nutrition Program*

The health professional education and research program is a levy funded nutrition project that articulates the nutritional reasons why Australians should 'Love Avocados'. The industry's nutrition research and education activities directly support the key marketing strategies and objectives.

To communicate the Australian Avocado Nutrition program's message to health professionals, the program has targeted three key audiences: dietitians, fitness professionals and diabetes educators. The strategies to engage these audiences have evolved with experience and are focussed on:

- Maintaining high quality and relevant resources
- Partnership with the Dietitians Association of Australia
- Participation in key health professional conferences
- Leveraging website and social media channels.

During the last quarter, the Australian Avocado Nutrition Program presented the key health benefits of avocados in three conferences and exhibitions: Diabetes Victoria's 'Breakfast Around the Tan' in Melbourne in March; the Fitness Conference in Melbourne in April; and the Dietitians Association of Australia's annual conference in Perth in May.

Diabetes Victoria sponsored an event called 'Breakfast Around the Tan' at the Melbourne Botanical Gardens on Sunday 15

March. Australian avocados were featured in one of the meal options – a delicious and healthy breakfast wrap. We also had a 3 metre by 3 metre exhibition booth to engage with the more than 1000 participants who attended the event. Our prime message was about the healthy fats in avocados that help address three major health issues: diabetes, heart health and healthy weight. We also informed the participants about avocados being a rich source of folate.

The focus in April was our participation in the major conference for fitness professionals in Australia: the Filex and Fitness Expo. This conference was held at the Melbourne Convention Centre and ran from 10-12 April. We engaged with more than 1000 fitness professionals during this conference with more than 200 signing up on our database wanting more information. The theme of our exhibition was 'Nutrient Rich Fitness' as featured in a specific fact sheet. Other supporting materials included the fact sheets on healthy fats and folate as well as recipe ideas.

Fitness professionals including media personalities such as Michelle Bridges, suburban gym trainers and personal trainers exert significant influence over the way a sizeable segment of the Australian population think about nutrition and food. This influence makes fitness professionals an important audience for the Australian Avocado Nutrition program.

One of the issues raised at our Australian Avocado trade stand related to the practical ways of regularly eating a high-calorie food such as avocados within a calorie-deficit diet. There was



Filex and Fitness Expo was held at the Melbourne Convention Centre in April



The Australian Avocado Nutrition Program exhibited at the Dietitians Association of Australia's annual conference in Perth

a genuine interest in wanting to recommend avocado but a lack of confidence in understanding its calorie contribution. The Australian Avocado Nutrition Program's recommended serving size of a quarter of a large avocado or 72 calories provided certainty to the fitness trainers. While awareness of the nutritional value of healthy fats is growing, there is still a need to educate and give permission to eat and enjoy avocados as part of a healthy diet.

The Australian Avocado Nutrition Program exhibited at the Dietitians Association of Australia's (DAA) annual conference in Perth from 13-16 May. We met with more than 700 dietitians with approximately 200 participating in our survey about avocado and healthy fats and folate. The incentive for this survey was the chance to win a tray of avocados.

Our interaction at the DAA conference reinforced the view that Australian dietitians are aware that avocados are a rich source of healthy fats but not that they are a source of folate.

One of the key learnings that we gained from this conference related to the importance placed on the palatability of a healthy diet for its sustainable use. Specifically, the presenters highlighted the need for a diet to be enjoyable and to deliver pleasure. Avocados deliver significant nutrition with a high level of pleasure and enjoyment. This is a specific message that will become part of our Australian Avocado Nutrition Program's resources.

Another learning from the DAA conference was the continued research in the effectiveness of the Mediterranean Diet in

reducing chronic disease, specifically cardio-vascular disease and diabetes. The Mediterranean Diet is a High Healthy-Fat Diet for which avocados is a perfect fit.

From the perspective of the Australian Avocado Nutrition Program, there would appear to be significant value in positioning avocados as a natural part of a contemporary or Australian Mediterranean Diet. It should be noted that the Mediterranean Diet works as a whole and not because of any specific food. Avocados would simply make the Mediterranean Diet more varied, more nutritious and more delicious to eat and therefore be more sustainable.



News from Around the World

News from Around the World contains reproduced articles that have been published by various international news sources.

China: Popularity of Mexican, Chilean avocados grows in China

26 June 2015

The avocados from across the globe are conquering the Chinese market at a rapid pace thanks to their considerably reduced price and to a better understanding of their nutritional value by consumers.

According to customs statistics, fresh fruit exports to China increased 22.8 percent over the year and amounted to 3.3 million tons last year. Avocado imports, in particular from Mexico, grew by 376 percent.

Mexican avocados got permission to enter the Chinese market in 2005, but consumption of this fruit has just begun to grow in recent years as China's middle class has started to pay more attention to their diet and has recognized the avocado as a healthy ingredient rich in vitamins.

According to industry figures, China only imported 37 tons of this fruit in 2011, an amount that, starting that year, has maintained an annual growth rate exceeding 300 percent.

According to a report in China Daily, China imported \$8.35 million dollars worth of Mexican avocado in 2014, 351 percent more than in the previous year.

This trend continues with the development of electronic commerce in China, which allows making orders of fruit to be imported in advance. Only during the first quarter of this year, Chinese companies imported 2,600 tons of Mexican avocado, worth US \$5.5 million, i.e. 486 percent more than in the same period of 2014.

Last September, the General Administration of Quality Supervision, Inspection and Quarantine of China signed an agreement with the agricultural and livestock authority of Chile to grant that country permission to enter its avocados into the vast Chinese consumer market, comprised by over 1,300 million people.

Similarly, the ambassador of Peru in China, Juan Carlos Capuñay, told Xinhua in an exclusive interview that Peru would start sending their highest quality avocado to the Chinese market this year.

Apart from avocados, other foreign fruits, such as bananas from the Philippines, Vietnam Guarani, grapes, apples and Chilean blueberries, cherries from Chile and the United States, oranges from South Africa and Australia, and kiwis from New Zealand, among others, have registered rising export volumes to China.

On the other hand, national distributors of these goods who, despite the difficulties of transporting and preserving the fruits'

freshness, are gaining strong popularity have determined a new strategy to introduce them in secondary cities through more extensive and varied sales channels.

Just as with avocado, what was once an exotic flavour available exclusively on luxury hotels or specialized markets in metropolises like Beijing, Shanghai or Guangzhou, is now becoming more common in the provincial capitals of central and northeast China, and the distribution map continues to expand.

Several industry sources are optimistic about the expectations of foreign import and distribution of fruit in China, as continued growth for the coming years is expected.

"The demand for avocados will continue to increase and it will reach double-digit growth rates in the next two years," predicted Jim Provost, vice president of the North American supplier of Lantao, a fruit import company based in China.

Source: www.freshplaza.com





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News from Around the World continued

NZ: New Zealand avocados set to engage foreign markets

9 July 2015

New Zealand avocados are on track to ‘Go Global’ and produce sales of \$280 million by the year 2023, according to New Zealand Avocado CEO Jen Scoular. “We have a well defined strategic plan, we are collaborating well across the industry, we are planning supply and demand, and work hard to improve the supply chain for avocados from New Zealand,” she says, referring to the record number of trays picked and packed this year.

New Zealand Avocado advises that total trays produced were 7.1 million. Total numbers were between 6.7 and 6.9 million trays, according to Stephen Trickett, from Just Avocados Ltd, while the domestic market took 1.8 million, up from 1.2 million last season.

There’s been a lot of consumer information made available about the health benefits of avocados, and work on quality issues has been consistent throughout the whole supply chain, Ms Scoular says. Forecasting, consistency and increased visibility of the health benefits avocados offer have helped. “Over the last

three years we have resolved some of the issues, and increased value from \$19m in 2011-12 to over \$30m in each of the past 2 seasons.”

New Zealand Avocado has also developed an Orchard Performance benchmarking chart measuring the performance of every orchard over a four-year average from 2012, in collaboration with Plant & Food Research. The information will be used and shared with growers and industry, Ms Scoular says.

Strong NZ dollar impacting exports

Despite a very strong New Zealand dollar, exports to the US and Asia have increased, maintaining value, and the US took 13% of the total crop for 2014/15. This season, however, Just Avocados Ltd is not anticipating any exports to the US. “Given the crop constraints the projected market split for the 2015/16 season is 80% to Australia and 20% to Rest of World markets,” says Mr Trickett. “Industry export crop forecast is 2.9 million trays, though some anticipate closer to 2.7 million trays will leave New Zealand, representing a 35-40% drop on this year’s record.”

Avocados New Zealand will attend the World Avocado Congress in Peru, and Asia Fruit Logistica in Hong Kong to meet growers and further engage foreign markets. “We’re facing a very strong currency against the Australian dollar, and against the Yen, for



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News from Around the World continued



example,” notes Ms Scoular. “Exports totalled \$135 million in the 2014/15 season, but that figure would have been \$20 million higher if we hadn’t had such a strong currency. We export 70% of our avocados, and as an exporter are faced with the challenge of exchange rates.”

This week saw the first maturity clearances for export, from orchards in micro-climates and early maturity situations such as Motiti Island which comprises just over 100 hectares avocado plantings, according to Mr Trickett. The area north of the Bay of Plenty, in New Zealand’s north, where the majority of 800-1000 hectares of new plantings are going in the ground, bodes well for the industry, Ms Scoular says. Plantings range in size from 40-60 hectares, according to Mr Trickett, and the mood in general for growers remains ‘buoyant’ according to him.

The avocado season runs from September until March each year for New Zealand, and the country has more than 1450 growers based mostly around the North Island’s Bay of Plenty and Northland.

Final volumes and percentages by market were as follows:

Costa Farms is the central market presence of the Costa Group where we market our own Avocados from our farm in Renmark (SA) alongside that of our closely aligned 3rd party grower base. We follow the principle of providing our aligned Avocado growers with quality service and strong financial returns because we understand the challenges of growing from the grower’s standpoint due to our direct investment in the industry, from growing to ripening to marketing within our national footprint. Costa Farms maintains a solid commitment to the grower base and we continually strive to provide our growers with the latest industry information. We support our growers from the standpoint of being a grower ourselves and work diligently to develop long-term, trusting and sustainable relationships that are mutually beneficial. Costa Farms strives to be known by our customer base for consistently the highest quality products in the marketplace.

- 
Melbourne Wholesale Market
 West Melbourne VIC
 Contact: Simon Owen - 0401 711 606
- 
Brisbane Wholesale Market
 Rocklea QLD
 Contact: Ryan O’Keefe - 0427 604 211
- 
Adelaide Wholesale Market
 Pooraka SA
 Contact: Andrew Christophides - 0400 177 594

Australia	3,200,000 trays	71.3%
USA	600,000 trays	13.4%
Japan	310,000 trays	6.9%
Singapore	180,000 trays	4.0%
Korea	80,000 trays	1.8%
Thailand	80,000 trays	1.8%
Malaysia	20,000 trays	0.5%
Taiwan	9,000 trays	0.2%
Other	9,000 trays	0.2%

Source: www.freshplaza.com

Colombia: Colombia's Q1 Hass avocado exports beat 2014 total

13 July 2015

Hass avocado shipments from Colombia surged in the first three months of this year to reach 2,500 metric tons (MT), with export values to the European Union up 15% on the whole 2014 campaign. Avocados - Ministry of Agriculture Colombia

The US\$4.6 million result has prompted positive expectations for the second quarter from the Ministry of Agriculture, which in a release highlighted 99% of shipments went to the EU with the Netherlands, the U.K., Spain and France as the leading destinations.

Colombia's season runs from late December to April and is supplemented by a smaller season from June to August. The country is the world's fifth-largest avocado grower accounting for 5.7% of global production, however its mark on global trade is minimal and Hass production is still in the early growth stages.

But with a bit of avocado bravado through U.S. negotiations and aggressive plantings, Colombia has potential to become a major player in the years to come.

"We are making great efforts to generate opportunities for Colombian agriculture overseas. Hass avocados are going well in trade and prices, and we trust that they could get to export volume similar to flowers, bananas and coffee," Agriculture Minister Aurelio Iragorri Valencia said in the release.

The minister said bilateral agricultural talks had taken place in recent weeks with the European Union to analyze trade and health admissibility issues, and it was clear Colombia had "all the possibilities" of widening its export ties with the old continent.



Grower Member Application Form

Avocados Australia Limited

ACN 105 853 807

The Australian avocado industry is a growing, successful and progressive industry. As the Australian avocado industry's peak industry body we work closely with all of the stakeholders that can have a direct impact on the marketplace. If you are looking to gain the maximum benefit from being a part of the Australian avocado industry we recommend that you become a member of Avocados Australia.

Avocados Australia provides online and offline information, programs, materials and events to advance the industry. On top of this there are other services we can provide that are only made possible through the support of our members. Join today. All membership enquiries can be directed to admin@avocado.org.au or call toll free 1300 303 971.

For Associate and Affiliate membership application forms please go to: www.avocado.org.au or call **07 3846 6566**

Member Details

Business name
and/or trading name:

ABN:

Key contacts:

Preferred address
(postal):

Address of property
(if different):

Contact Details

Business phone:

Home phone:

Fax:

Mobile:

Email:

Grower Member Application Form continued

Corporate Structure

How would you describe the nature of your operations (please tick)?

- Individual Partnership Company
 Trust Lessee Cooperative
 Other (please specify) _____

Please indicate the area of property that you crop for avocados (please tick)

- 0.5 - 5 ha 6-19 ha 20-49 ha
 50-99 ha 100-149 ha 150-199 ha
 200-499 ha 500 ha+

Payment Options

Grower Membership of Avocados Australia is **\$143 pa** (including GST).

You can pay your membership by cheque or credit card. To pay your membership fee, please choose one of the following options:

- Cheque**
 Please find enclosed a cheque for **\$143.00** made payable to Avocados Australia Ltd.
- Credit Card**
 Please charge \$143.00 to my credit card. Details are listed below.

Credit card type (please circle): Mastercard Visa

Credit card number: _____

Name on credit card: _____

Expiry date: _____

Signature: _____

Once you have completed this form please place it in an envelope addressed to:

Avocados Australia
Reply Paid 8005
Woolloongabba Qld 4102

(no stamp required within Australia)

Or email admin@avocado.org.au

For more information or assistance please go to www.avocado.org.au or call on **07 3846 6566**

News from Around the World continued

“With countries the issue of trade admissibility works like ‘help me and I’ll help you’ or ‘block me and I’ll block you’, so if we make the most of the opportunities when countries ask us for admissibility and at the same time deal with our interests, the process will be much easier,” Irragori Valencia said.

As part of negotiations to gain U.S. market access, the Colombian Agricultural Institute (ICA) is carrying out a series of training programs for Hass avocado growers.

“The goal is that small to large growers of avocados be aware of integrated business management of their properties and the need to implement good agricultural practices, as well as a continuous and thorough crop monitoring to detect and control pests,” added Plant Protection assistant director Carlos Alberto Soto.

Source: www.freshfruitportal.com

Peru: Avocados gain end-of-season marketing boost

17 August 2015

The Peru Trade and Investment Office is funding its first-ever avocado campaign with on-pack branding in Waitrose stores.

Order your Kangaroo Labels

Avocados Australia manages the Kangaroo Label and a set of barcodes for use on Australian avocados.

To order Kangaroo Labels through our registered label companies, grower packers or packhouses should contact Avocados Australia so they may be issued with a Packhouse Registration Number. Contact Avocados Australia on toll free 1300 303 971 or email admin@avocado.org.au, then source your Kangaroo Labels from a registered Kangaroo Label supplier listed below.



Registered Kangaroo Labels Suppliers:

- | | |
|---------------------------------|------------------|
| Aldine Printers: | ph: 07 4051 4330 |
| J-Tech Systems: | ph: 02 6049 5001 |
| Label Press: | ph: 07 3271 2111 |
| Warehouse Design and Packaging: | ph: 02 9905 0963 |

Following a new promotion campaign run by the Peru Trade and Investment Office in partnership with importer Greencell, Peruvian Hass avocados will get an end-of-season boost.

Country of origin branding, recipes and key facts will appear on packs of Hass avocados sold at Waitrose for the last two weeks of the season, while a wider communications campaign will engage food writers and journalists.

It is the first time the organisation, which is part of the Ministry of Foreign Trade and Tourism and works under the umbrella of the Peruvian Embassy, has funded avocado promotion in the UK. Greencell's contribution came from its position as a key Waitrose supplier, as an entry point for the campaign into UK retail stores.

Piloting this year, the campaign is expected to increase for the 2016 season and may also expand to include other Peruvian products. It is working closely with the promotional campaign run by ProHass, present in the UK market since 2009, by coordinating approaches and sharing resources.

"The Trade and Investment Office works to develop business for Peruvian products and Hass avocados are one of Peru's most promising exports to the UK," said Jaime Cardenas, Director of the Peru Trade and Investment Office.

Cardenas said avocado exports to the UK from Peru rose by 68

per cent in value and 69 per cent in volume between 2014 and 2015. Sales of avocados in the UK market rose by nine per cent last year, according to figures from the Peru Trade and Investment Office.

"There is still exciting potential to develop sales of this fruit in this market," said Cardenas. "We're really pleased to be launching activity in stores and in the media that is designed to support this process."

Arturo Medina, general manager of ProHass said, "We are delighted to be working with the Peruvian Government for the benefit of our growers and customers in the UK.

"Our promotional work has helped develop the market for Peruvian Hass avocados during the past seven seasons and the activity organised by the Peru Trade and Investment Office extends the reach of the campaign significantly."

ProHass' campaign has this year included tastings in Marks & Spencer and Tesco, recipe development, photography and social media. The Peru Trade and Investment Office's campaign will only appear in Waitrose stores.

The Peru avocado season runs from May until September.

Source: www.fruitnet.com

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