

In A Nutshell

Summer/ Autumn 2019

A close-up photograph of almond trees in bloom or early fruiting. The image shows green leaves and several fuzzy, light-brown almond husks. One husk is open, revealing the brown, textured almond kernel inside. The background is a soft-focus view of more almond branches and leaves.

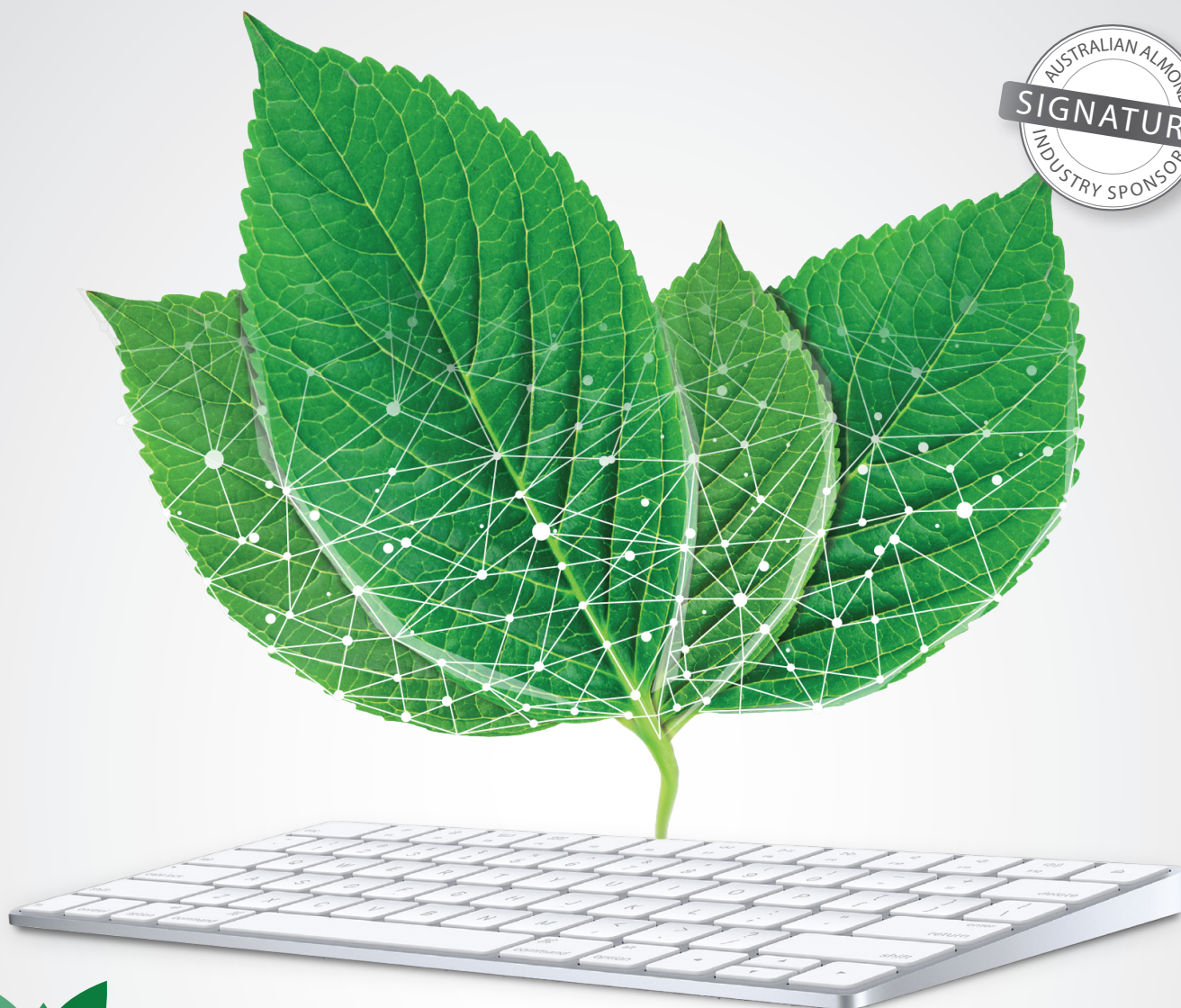
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In A Nutshell

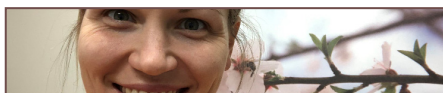
The Official Newsletter of the Australian Almond Industry



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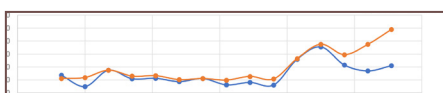
Tim Jackson, Australian Captain



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In A Nutshell

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The Almond Board of Australia is the peak industry body representing the interest of almond growers, processors and marketers in Australia. In a Nutshell is published by the ABA to bring news to all industry contacts and members.

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Record harvest on track

ABA Membership Why become a member?

The ABA is the peak representative body for the Australian almond industry and as such addresses many issues that impact on all participants in the industry including growers, processors and marketers and those that supply inputs. These impacts can be positives such as free trade agreements or promotion to stimulate demand and hence prices or they can involve minimising negative situations such as food safety issues, market access problems, chemical registrations etc.

The ABA develops and drives the implementation of the Australian industry's strategic plan which is done to benefit all producers and other industry participants. The strategies involve building domestic and export markets, the key to strong grower returns, addressing a wide range of risks from the availability of production inputs to government policies that impact on costs and yields. These matters effect on the bottom lines of almond enterprises. The ABA's whole of industry strategies have been successful and have worked to ensure the large increases in production have been cleared.

The ABA operates a number of activities that support industry and generate revenue to fund its operations and keep membership fees at a low and affordable cost. Being an ABA member provides crucial support for your industry body that we need and appreciate. A strong membership base provides added force in our representation of industry to government and in the wider community.

Join the ABA today, in the knowledge you are assisting the industry and yourself to move forward as Australia's most valuable horticultural industry.

Join the ABA by visiting our website, phoning 08 8584 7053 or emailing admin@australianalmonds.com.au

ROSS SKINNER: The 2019 Australian almond crop will be a record tonnage. It may reach 100,000 tonnes if the early reports of good yields in the orchard carry through to good pack out figures. The additional tonnage will be welcomed by the industry marketers to enable the emerging market of China to be serviced without sacrificing sales into established markets, as has been the case in 2018.

To find supply for China in 2018, from a similar sized crop to that of 2017, less tonnage was sent to:

Europe (25%↓)
Middle East (21%↓)
Africa (19%↓)
India (17%↓)

The Australian government recently announced improved access to the Chilean market. Although Chile is not a large market, it has shown interest in Australian product and will receive attention from our almond exporters. Chile will add a further market to the 50 countries we export to already.

An increase in the Australian almond crop of up to 25 percent or 20,000 tonnes will mean the industry will be better able to explore these new marketing opportunities.

With the surge in available export tonnage over the next few years as new plantings come into production there is a need to maintain equity in the

investment of the marketing levy between the domestic and export markets. The ABA Board of Directors recently agreed to the recommendation of the Market Development Committee to split the funding between the programs based on sales percentages. This means a significantly larger investment in future on the export program whilst the spend on the domestic program will increase in dollar terms more slowly depending on the percentage increase in Australian consumption.

The 2019 crop is looking to be of good quality with reduced levels of insect damage following the concerted efforts of growers in managing the collection or destruction of mummy nuts that provide a refuge for overwintering insects.

A continuing effort on orchard hygiene will be required in 2019/20 to consolidate the improvements obtained in the past year. With the quality reputation of the Australian industry in jeopardy, the response



An increase in the Australian almond crop of up to 25%, or 20,000 tonnes will mean the industry will be better able to explore new marketing opportunities

by producers has been welcomed. The processors have also invested heavily in scanning equipment that has assisted and has provided momentum for the development of improved technology.

The water debate has enlivened following the mass fish kill at Menindee. A call by some to increase the environmental allocation needs to be tempered by due process in considering the gains and also the impacts on the Murray Valley communities.

The call by a politician to transition horticultural industries that are solely reliant on water from the Murray to arid crops would decimate the economies of Sunraysia and the Riverland because horticulture is the economic foundation that many other service and supply businesses are built on.

Although water storages are at levels higher than in 2008, we are in drought with low rainfall in the producing districts and in the catchment areas for water storages. Although the dams are not yet at the low levels of 2008 – 2010 it must be taken into account that they are now holding water for the environment.

The nil allocation to NSW general security holder leading water prices to top \$500 per megalitre.

The ABA believes the structure of the water market is not optimal and has appointed a Committee and consultant to address this issue and will be seeking the support of other horticultural bodies in this pursuit.

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5 minutes with... Anna Petersen

This edition of “5 minutes with ...” is with Anna Petersen. Anna has worked with the ABA previously on our communication projects and has recently re-joined us in the Loxton office after spending time raising her young family.



Tell us a little about yourself and your background.

I moved to the Riverland back in 2010 to join my now husband on our almond and wine grape property. I have studied in the areas of communication and media management with additional tertiary study in public relations. My previous roles have involved website and content development, document design and publication, event management and social media engagement. In recent years though I have spent my time raising our two young children, nearly 6 and 4. I'm grateful to have had the opportunity to spend those years with my children and am looking forward to re-entering the workforce on a more consistent basis.

What does your role with the Almond Board of Australia involve?

I'm working with the ABA on a part-time basis on some of their key publications, particularly the *In A Nutshell* almond industry newsletter. I'll also be supporting the ABA team with other communication related tasks.

What do you enjoy most about working in a communications role?

As almond growers ourselves, there is a lot of relevance in the work that I do. I particularly enjoy the variety and the creativity – and at times, the challenge. The ABA is a good example of an organisational body that requires a complex approach in its communications strategies as our stakeholder needs and expectations are so varied. The challenge then lies in identifying these needs and tailoring our program to ensure that we are delivering timely information that is of value. We are only a small team and at the end of the day, I believe one of the key roles of the ABA is operating as a facilitator for information sharing with our wider industry, and the communications project is a major part of that.

So, you're working with the ABA part-time, what are some of your outside interests?

I'm a regular Crossfitter and (occasional) rower. My local rowing club will be celebrating its centenary this year so I will be involved in planning some of those events. I also like to run and participate as regularly as I can in our local parkrun event on Saturday mornings. I also enjoy trying new recipes out of my Jamie Oliver cookbook (although even I can tell that five ingredients is not enough, Jamie!) and then enjoying it with a glass (or two) of wine which I consider to be “market research”. I love spending time on the river with my family and getting out for a wakeboard (a new skill I've recently acquired).

Export Update



JOSEPH EBBAGE: From a global almond marketing perspective, the total supply of almonds is driven by the Californian crop which will be approximately 2.3 billion pounds. This is less than the Objective Estimate published last year of 2.45 billion pounds. Total Californian almond shipments for their crop year to date (August 2018 to February 2019) have been 1.404 billion pounds compared to 1.422 billion pounds for the same period last year. This represents a decrease of 1.29%. Their Domestic Shipments were 427 million pounds for this period compared to 410 million pounds last year (+4.15%). Californian Export Shipment for the period were 977 million pounds compared to 1.013 billion pounds the previous year (-3.49%).

China has been an important market over this period. The retaliatory tariff of 50 per cent that China has imposed on Californian almonds has had a negative impact on their trade. Californian exports to China were 103 million pounds (47,000 tonnes) for the August 2018 to February 2019 period compared to 138 million pounds (63,000 tonnes) the previous year. This is a decrease of 25 percent.

Given that the China-Australian Free Trade Agreement has reduced the tariff on Australian almonds to zero, there has been a significant increase in the exports of Australian almonds to this market. Australian exports to China for the March 2018 to December 2018 period was 11,414 tonnes compared to only 578 tonnes last year. As a result of this sales surge, China is now Australia's second largest export destination behind India who

purchased 15,144 tonnes for the period.

From the perspective of our Australian Almond Export Development program, we continue our strategic commitment to grow our key Established and Emerging markets. During this January to March period, we exhibited at the Gulfoods Trade Show in Dubai in February and at the Foodex Trade Fair in Tokyo in March.

Foodex, Tokyo



This year's Foodex trade fair ran from March 5 to 8 in Tokyo. This year was the fifth time we exhibited at Foodex and held an Industry Seminar. In this time, exports of Australian almonds to Japan has grown from 32 tonnes in 2014-15 to almost 1,000 tonnes in the 2018-19 year. It should be noted that California exported approximately 36,000 tonnes into the Japanese market last year. Our challenge is grow

our 1,000 tonnes to 3,000 tonnes which would bring us closer to our global market share. This year, Foodex attracted over 70,000 visitors with 3,500 exhibitors from 83 countries.

Our Australian Almonds exhibition was located within the Australian Pavilion. The feature of our Foodex program was the Industry Seminar held on the first afternoon of the trade

show. Around 30 Japanese trade customers attended this Seminar which was opened by the Australian Trade Commissioner to Japan and included an industry overview by Joseph Ebbage from the ABA, and a Q&A panel with the three Australian almond exporters: Damien Houlahan from Olam, Tim Jackson from Almondco and Laurence Van Driel from Select Harvests.

Participants in the second Gulfoods "Almond Ashes" cricket match this year won by India.



The 2019 Gulfoods trade fair in Dubai ran from February 17 to 21. It is now one of the largest food fairs in the world. It attracted almost 100,000 visitors from 193 countries. There were more than 5,000 exhibitors with 120 country pavilions. Gulfoods is one of our most important trade events as it attracts many of our key Indian customers.

Our Australian Almond exhibition was within the Australian pavilion. We had a 9 metre x 3 metre booth that featured a 9metre graphic of our almond orchards at harvest. We wanted to communicate in the strongest terms possible our counter-seasonal crop to California. This year's Gulfoods was a strong marketing event for Australian almonds with significant demand from Indian almond buyers.

On the eve of Gulfoods, to celebrate our cultural connection with our Indian customers, we held our second "Almond Ashes" cricket match. An Australian Almonds team played a game of indoor cricket against an Indian Almond team. It is a sign of the uniquely collaborative character of the Australian almond industry that we can unite to form a team and play a game of cricket against a team of our customers.

(See page 10-11 for a full match review by Australian Almonds Captain, Tim Jackson).

On the third evening of Gulfoods, following from our tradition of the past four years, we held a Seminar and Networking Event at a venue attached to the Convention center. This event was well attended, especially by our Indian trading customers. Ross Skinner, the CEO of the ABA, delivered an industry overview and forecast of the 2019 crop.





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Domestic Update



In the January to March 2019 period, one key feature of our Australian almonds domestic marketing was our 'Back to school' promotion.

Our aim was to generate awareness of Australian Almonds and the role they can play as a 'helping hand' for students as they return to school. We developed a multi-pronged campaign to attract maximum awareness to the benefits of almonds as a healthy after-school snack.

TV personality, Sophie Falkiner was engaged as the campaign ambassador, using her public profile and credibility within the parenting space

to secure a variety of media opportunities that communicated campaign messaging. The partnership with AFLPA was also leveraged to secure a broadcast media opportunity featuring Paddy Dow.

The "Biting Truth" an agency of dietitians specialising in student nutrition, developed nutrition tips for parents, and simple snacking recipes. As well as seeding these to key media, coverage was secured across The Biting Truth's own social media platforms.



ALMOND ASHES II: Blow by blow

TIM JACKSON, AUSTRALIAN ALMONDS TEAM CAPTAIN:



The second annual Almond Ashes cricket match during Gulfoods in February was a historic moment for the Indian team.

The Almond Board of Australia's promotional game between Australian almond sellers and Indian almond buyers has been a raging success. It is not too often that you are able to bring competitors from both ends of the supply chain to collaborate so enthusiastically on one event. Working side by side, the match was again held on the eve of this year's annual Gulfoods Trade Show in Dubai. People from all over the world converged on a small indoor cricket centre to take part in the match.

In 2018, the Australians scored an unexpected victory and enjoyed bragging rights with their customers for much of the year. Not only did the vanquished return with a much more organised and youthful team, the Indians also demonstrated that their country can actually play cricket very well and did not require the use of any sandpaper to do so.

The Indians recorded a 24-run win to claim the Ashes.

Unlike last year where eight Indian players took to the field and were led by at least another dozen captains off the field, there was no such chaos this time around. "Catches win matches" and some of the Indian efforts in the field, especially on the back net proved decisive to the outcome.

The Australians were a shadow of their former victorious selves.

An immediate review of all positions in the team was commissioned by the Almond Board of Australia after the game. ABA CEO, Ross Skinner, did not take the loss well. As a long-time

Collingwood supporter, it was no surprise to team-mates to hear him calling for a taxi before the game was even over. There were a myriad of reasons for the poor performance and the blame was shared around in large lumps throughout Gulfoods.

Olam's Toby Smith did his best to round up a local employee to bolster the ranks, which were without last year's marquee players Michael Scalzo and Craig Greenwood from Melbourne-based retail packing giant Scalzo Food Industries.

Unfortunately, the Indian born, Dubai based employee got cold feet at the last moment and didn't appear. Apparently, he couldn't bring himself to play in Australian colours. Toby promised a more detailed screening process will be conducted within Olam next year.

The Indians won the toss and batted first.

However, by game time, a young, tall, athletic lad that was firstly referred to as a "friend of Akshay" Bhatia and later referred to by his team-mates as "Reuben"

had accepted one of the ABA-supplied Indian commemorative playing tops and was striding out to open bowling. No one in the Aussie team knew "Reuben".

"Reuben" let loose with some chin high thunderbolts. The Australians had witnessed similar express bowling from Indian Test opener Jasprit Bumrah during the Test series earlier in the summer, but did not expect to be on the receiving end of a similar class of bowling in downtown Dubai. Who was this man?

Openers Brenton Woolston and Nigel Carey did their best to weather the storm. However, a 12-run turnaround on one shot best summed up the Australian team's fortunes on the day. Woolston flat batted a great straight six and as he stood mid-pitch taking in the applause of his team-mates and wife Jane, Reuben picked the ball off the back net and ran him out. Instead of scoring up seven runs, the team lost five. (Every wicket in indoor cricket results in a loss of 5 runs).

Skinner did his best to repeat the heroics of the year before when he figured in a match-winning

partnership. However, with a new partner – Toofail Ahmed from the Al Ras market – there was a communication breakdown and the much-anticipated fireworks by the two big hitters fizzled.

The heir apparent to the throne of the INC, Michael Waring, made his Australian debut. His career in recent times had been derailed by a hip replacement, but his off spin and correct batting technique were pivotal to keeping the Aussies in the game. He teamed with Almondco ambassador Stefan Kaercher late in the innings to add valuable runs. Kaercher was a product of the ABA's left-field recruiting policy. How selectors thought someone who was Swiss born, German-based and married to a Californian beauty with Mexican ancestry would be any good at cricket was one of the few success stories of the day for the Aussies.

The Aussies bravely fought on but did not have the firepower of the year before to post a large total and were restricted to 87 in 20 overs.

India started their run chase in style.

"Reuben" and Akshay posted an explosive opening partnership of just over 50. They were within

reach of victory in just four overs. The power hitting was something to behold as the star Aussie bowlers of a year ago, were summarily despatched to the long boundaries.

Some of the fielding of the Aussie team also fell short of expectations and on critical occasions the speed in which some moved to cut off high scoring shots could be best described as "glacial".

However, the Aussies rallied, digging deep to call on a bit of nationalistic pride in the face of humiliation and started clawing back ground. After the initial onslaught the remaining batsmen were relatively well contained. Big opener, Joseph Ebbage, was his accurate self while Nigel Carey's left-armers were difficult to despatch. Overall though, the amount of wides and no balls conceded by the Aussies had a significant impact on the outcome.

Other notable performers with the bat for India included the skipper Shrey Bhatia, keeper Monnish Seth and Aman Bhatia who wisely went into a "no risk" conservative mode in the last pair to ensure a 100 plus score was posted without the loss of further wickets.

By doing so, he was able to guide his country to a comfortable victory.

At the presentation evening at Gulfoods three days later, the Australians conceded that some complacency may have crept into their preparation (or lack thereof) but congratulated the Indians on their comprehensive win and presented Ashwini and Shrey with the Almond Ashes. Magnanimous in defeat, the Aussies also introduced a runners-up trophy, which by chance was about 10 times the size of the winner's urn. The Indian victors didn't care and saw the funny side of the Laurence van Driel-inspired gesture.

In wrapping up, the Aussies considered the efforts of Akshay and "Reuben" to be worthy of joint man of the match honours but surprisingly "Reuben" was not present to receive any such accolade. Where was Reuben? "Somewhere in India", came the reply.

Apparently, the importing skills of Indian buyers extends well beyond just almonds!

Let the games begin for Almond Ashes III in 2020.

AUSTRALIAN ALMONDS LINE-UP

- | | |
|---------------------|------------------------|
| 1. Brenton Woolston | 8. Stefan Kaercher |
| 2. Nigel Carey | 9. Andrew Waring |
| 3. Ross Skinner | 10. Laurence van Driel |
| 4. Toofail Ahmed | 11. Joseph Ebbage |
| 5. Tim Jackson (c) | |
| 6. Toby Smith | |
| 7. Michael Waring | |

INDIAN ALMONDS LINE-UP

- | | |
|---------------------|---------------------|
| 1. Ashwini Taneja | 8. Vishal Chabbaria |
| 2. Shrey Bhatia (c) | 9. Monnish Seth (w) |
| 3. Aman Bhatia | 10. Vikram Bhatia |
| 4. Raju Bhatia | 11. Akshay Bhatia |
| 5. Naresh Soni | 12. Ankit Gupta |
| 6. Sharan Soni | 13. Toofail Ahmed |
| 7. Sameer | 14. Rajiv Pabreja |

OVERVIEW: Pre-harvest field walk



JOSH FIELKE: On February 6, the Almond Board of Australia held a pre-harvest field walk, hosted by Select Harvests' at their Lake Powell Orchard. The event was well attended with a total of 16 presenters including growers, chemical and industry advisers, researchers and ABA staff who provided valuable information on almond growing, harvesting and pest and disease research.

To start the day off, Ben Brown (Select General Manager - Horticulture) and Select staff provided an overview of the Select harvest growing principles and what they have implemented as a company to get to where they are with the current crop. Discussions took place to look at various challenges that many almond farms face. Ross Skinner (ABA CEO) provided a broader industry view adding in some marketing perspectives.

As in most other industries, pest management is one of the most prominent challenges around keeping our product at a high quality. A large proportion of the field day was dedicated to this topic.

Over the past few years it has become apparent that there are several essential criteria to create a solid pest management strategy, many of which make up orchard hygiene. Farms generally do a minimum of blowing the nuts off the dripper line, as well as a minimum of a sweep and mulch up of the overwintering nuts. From a greater industry perspective, it is pleasing to see the scale and improvement of hygiene practice that has been adopted and implemented across many farms over the past winter/spring.

On a chemical front, in November 2018 the APVMA (Australian Pesticides and Veterinary Medicines Authority) granted an emergency use permit for

the use of Samurai, a systemic pesticide containing 500g/kg of Clothianidin as the active ingredient for the use on Carpophilus Beetle and Carob Moth. At the field day, Frank Gallucio (Sumitomo) was present and discussed the use of the product on almonds and what they have seen. There have been some promising preliminary results so far this season when used in combination with the previously mentioned sanitation practices.

David Madge and Blair Grossman provided an update from Agriculture Victoria's integrated pest management project outlining what they have observed and what they are working on. One of these



Pest management is one of the most prominent challenges around keeping our product at a high quality.

Rain or shine: Attendees at Select Harvest's Lake Powell Orchard on February 6.

components is an updated trap and kill control. The trap will specifically target the *Carpophilus near dimidiatus* and will provide growers with the information needed to not only kill but identify hotspots within the orchards for that species. This new technology will also provide a longer lifespan than the current trap used in stone fruit orchards.

To add to the hygiene armoury, two pieces of machinery were demonstrated. A large amount of work has gone into the two machines to try and get effective breakdown of over wintering product. The Gallard Group have designed a mulcher to try and achieve this. The machine has been used at a couple of orchards across the Riverland

and Sunraysia. Rob Cox, from Amaretto Almonds, has shown what can be achieved with the specialised equipment, however he emphasised the importance on ground preparation to ensure as much material as possible is put through the machine.

The next piece of equipment has been worked on by Select Harvests, lead by Jason Robinson. This machine is based on the seed terminator that is used throughout the broadacre industry to destroy weed seeds. The unit is placed onto the Flory pickup and then lifts the nuts and destroys the seeds. The result can be seen in the photo on page 17.

Both technologies showed strong

benefits and improvements on older machinery and will be analysed with the help of the Integrated Pest Management research team. It is great to see these companies take on this work and share it with the industry.

For the disease component, Agriculture Victoria's Peta Faulkner provided an update on the integrated disease project. A significant amount of sample collection has occurred over the past few months and is currently being analysed to identify the most prominent diseases within the almond industry throughout the different growing regions within Australia. Results are yet to be completed as samples are still being collected and analysed.

Cont...

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To add to the toolkit for disease management, Merivon is planned to be released on permit pre-2019 bloom for several different diseases. Eduard Louw (BASF) was available at the field day and presented on the product. Testing is currently underway for its effectiveness on Hull Rot to see if they can get control or suppression with its use. Hugh Armstrong (Bayer) was also present to provide an update on Luna Sensation, surrounding its effectiveness on Hull rot. It is labelled as suppression and it has been shown to reduce the occurrence of the disease. With these two products, it should provide a greater ability for growers to be able to have a strong resistance management program while attacking one of our major diseases with some force.

Finally, Michael Treeby (DJPR) presented on the Spur influences project. The team is looking at the effects of differing water and nitrogen supply regimens on spur survival and fruiting. The project analyses the effect of both essential products and analyses them accordingly. Interestingly it was identified that Carmel spurs are more likely to survive multiple seasons than the Nonpareil spurs.

In summary, the field day was a fantastic opportunity to showcase the enormous effort going into research by both research teams and farm staff. By sharing this information, it is envisaged that the industry can continue to work towards a stronger Australian product.

Further and complete updates will be shown at the 2019 Research and Development Forum to be held on October 30-31 2019.



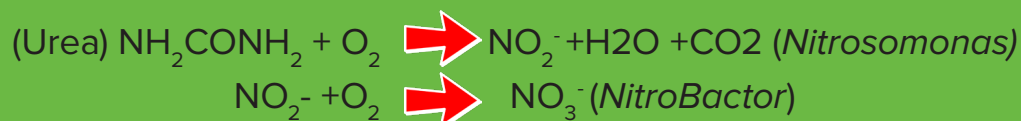
Machine demonstration: This machine is based on the seed terminator that is used throughout the broadacre industry to destroy weed seeds. The unit is placed onto the Flory pickup and then lifts the nuts and destroys the product.



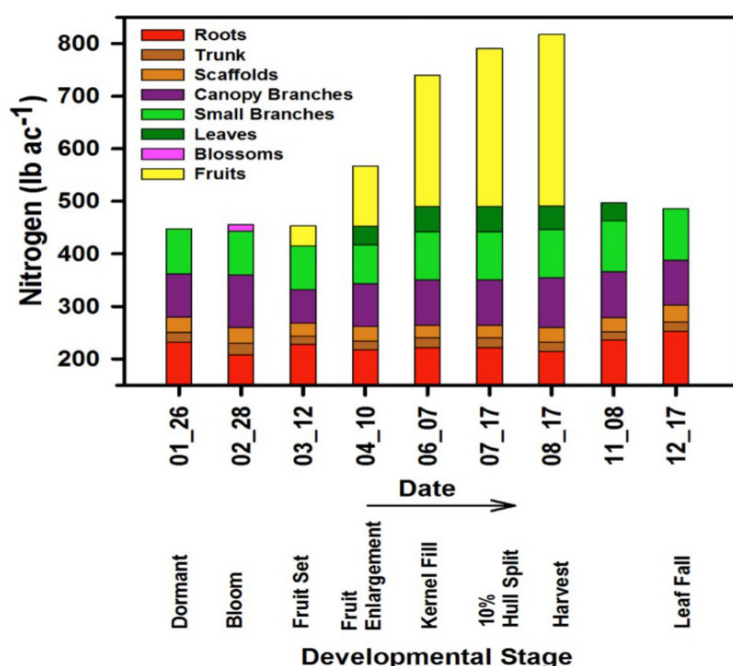
Late nitrification in sandy soil has negative effect on controlling hull rot



UPUL GUNAWARDENA, Technical Officer, Select Harvests Ltd.
Nitrification is a chemical reaction induced by soil microbes. The major nitrogen (N) fertilisers such as urea and UAN need to undergo a nitrification process prior to being taken up by the plant:



This microbially induced process will convert urea into plant available N form (NO_3^-).



Almond Tree Nitrogen Demand (Gurreet Brar, University of California)

Almond nitrogen demand

An optimum N application strategy should meet the plants N demand so the plant can remove N based on crop load, vegetative growth and crop structure development.

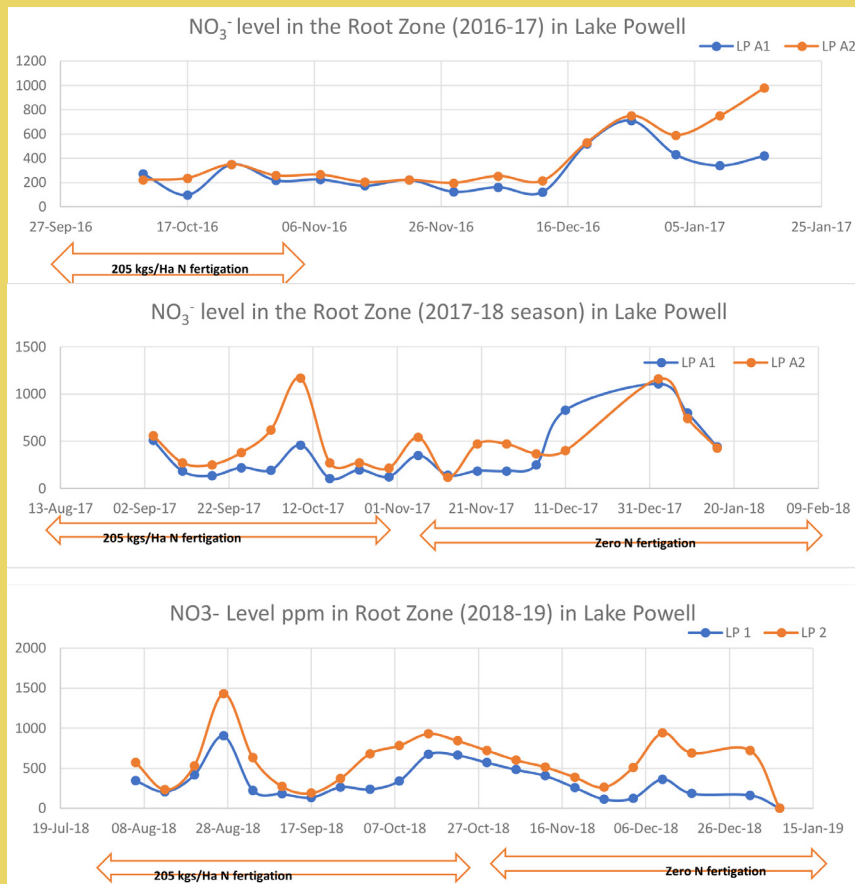
Select Harvests monitors root zone N using Solusamples to collect soil solution and uses the Horiba test kit to measure the NO_3^- level. Solusampling results in the last three years has revealed some valuable information on how nitrogen fertiliser behaves in different soils.

N fertiliser application period:

- a) Pre-Harvest (Last week July – end October) - 205kgs/Ha
- b) Post-Harvest (First week March- first week April) -48kgs/Ha

Summary

During the fertigation period, the root zone NO_3^- level was between 200-400ppm in the Lake Powell soil in the 2016/17 and 2017/18 seasons. Better NO_3^- levels were observed in the root zone in 2018/19. During the post fertigation period in November, the NO_3^- level dropped for a short period of time (about 2 weeks). In early to mid-December, the NO_3^- level was starting to rise and remains high in January (during the hull split).



e) Inhibition of nitrification due to NH₃ in the soil (Ferguson, R; Lark, R; Slater, G. (2003). "Approaches to management zone definition for use of nitrification inhibitors". Soil Sci. Soc. Am. J. 67: 937–947).

Our results demonstrates, fertigation of Urea based N fertilizers under go Late Nitrification, hence it can elevate Rootzone Nitrate levels in December and January, particularly during the Hull Split period. Root zone Nitrate level has a direct relationship with Leaf and Hull Nitrate levels (Gurreet Brar, University of California). High Root zone Nitrate level elevates cycling N pool of the Almond (Farbod Youssefi, Patrick Brown & Steve A Weinbaun 1999).

These conditions are highly favourable for Hull Rot Outbreak. Even slightly high level of humidity combined with elevated cycling N pool will increase the severity of Hull Rot outbreak. (Gurreet Brar, University of California).

In the last three years, Select Harvests' Technical Team has investigated this issue and identified this as one of the key aspects to manage hull rot. The team is currently working on a number of methods to improve nitrification during the main fertigation time. These methods may improve nitrification and we expect to control the cycling N pool during the hull split period which may reduce the severity of a hull rot outbreak.

There are several possible reasons for this elevation of NO₃⁻ level in December -January period:

- Thunder storms in the middle of December may contribute some NO₃⁻ to the soil (In the Mallee region <10kgs/Ha/Annum)
- During the fertigation, urea molecules may push outside the root zone, and it can stay without undergoing nitrification. A higher volume of irrigation in December/January means the wetting zone may become wider. Undissolved urea may come back into the root zone; and undergo nitrification to produce NO₃⁻.
- Delayed nitrification due to low soil temp in October/ early November.
- Low soil pH may further reduce nitrification (the optimum soil pH for Nitrosomonas and Nitro Bactor is 6.5)

The following N management strategies will be investigated in the next season:

- Improve microbial population in the soil by adding compost / microbial solutions to find the effect on nitrification.
- A portion of annual N will be applied as soil application, combined with compost.
- Replace the UAN form of N with AN25 (reduce pre-harvest urea).



The Almond Fund has a new website

Hort Innovation's new website allows the almond industry to find more information and more resources quickly and easily.

Six pages of industry-specific content provide you with:

- Up-to-date details on levy fund management
- All ongoing investments with updates, advice and actions you can take now
- Completed investments with user-friendly summaries, final research reports and more
- More resources, information and tools than ever before
- Ways to connect with industry and people you can contact now.

NEW – completed investments:

- **View a user-friendly summary of what the investment achieved**
- **Download the final research report with in-depth information**
- **Access fact sheets, publications and other tools and resources that were developed as part of the investment.**

**Hort
Innovation**
Strategic levy investment

**ALMOND
FUND**

horticulture.com.au/almond

NUTS: Statistics Handbook recently released



*Nationally, **almonds** were Australia's most **valuable** horticultural **export** product (\$440m) followed by table grapes (\$384m), oranges (\$280m) macadamias (\$266m), and mandarins (\$139m).*

Hort Innovation has recently released the **2017/18 Horticulture Statistics Handbook** featuring the most comprehensive and contemporary data available on all sectors of the Australian horticulture industry.

The Handbook, produced by the across-industry levy investment *Horticulture Statistics Handbook 2015-2018 (AH15001)*, features information drawn from several supply chain and trade sources and includes data on more than 70 horticultural products including fruit, nuts, vegetables, nursery, turf and cut flowers.

Hort Innovation General Manager for Research, Marketing and Investment, David Moore, said

the Handbook provides an in-depth overview of how the industry was performing at large, with a targeted focus on fresh market supply values and volumes by product, import and export dynamics, and the identification of key production regions and seasonality.

Findings in the Handbook, which captured data up until June 30 2018, included:

- Nationally, almonds were Australia's most valuable horticultural export product (\$440m) followed by table grapes (\$384m), oranges (\$280m) macadamias (\$266m), and mandarins (\$139m).
- The turf industry produced 43.6 million m2 of turf grass worth \$273m in production value.
- Victoria was the nation's leading fresh exporter accounting for 47 per cent of the total value of horticultural exports, valued at almost \$997m.
- The largest export markets for fresh Australian horticultural products by value were Asia (72 per cent), followed by Europe (9 per cent) and the Middle East (9 per cent).

The handbook is available for download in four different categories - including Nuts.



Almond growers, don't gamble with frosts.

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The 2019 harvest season has been one of the more straight forward seasons due to the dry conditions. The low amount of rain has taken the stress off drying with growers given the luxury of being able to dry their product in-field rather than having to double handle, placing the almonds in a neighbouring paddock to achieve the desired kernel moisture level quickly. While the weather was hot early in the harvest season, there was immature fruit on the trees that delayed the initial shake. In general, harvest progressed smoothly, and the nuts shook well.

While full crack outs have not yet been completed, the crop levels are looking to be between average and above average. If this is the case, the 93,000 tonnes prediction for the industry will likely be exceeded this season. Although the yields are up, the lengthy hot spells witnessed throughout the season creates potential for the kernel sizes to be slightly down this season. This could be seen in the crack outs in this year's statistics. There are several factors that have occurred to produce the crop levels, and some are outlined throughout this article.

2019 Harvest Update



JOSH FIELKE: Recently, I had a chat with the Grower Directors of the Almond Board of Australia as well as representatives from the Production Committee to gain further insight in to the current 2019 harvest, as well as some tips moving in to the coming months and in to pollination.

The efforts that have gone into controlling the Carpophilus beetle and Carob moth populations have shown positive signs, with lower amounts of damage across all regions. It is important that continual effort in this is maintained. As spoken about in the field day article on page 14 there are several approaches that can be taken with positive technological and chemical developments coming from different aspects of the industry. Also relating to pests, and as mentioned in the previous *In a Nutshell*, there has been a higher prevalence of mites this season prompting high importance on the oil sprays to be conducted over the 2019 winter.

Frost fans are starting to become a necessity throughout areas of frost risk. The farms that have put in frost fans have proven their worth, with it believed they paid for themselves in saved crop this

season. The calculation of this comes from the comparison of the 2017/18 season where there was significant frost damage in the same farms and similar temperatures were observed this year. It is important that when putting in the fans that they are positioned correctly so that the cool air is distributed correctly and not relocated to another area of the orchard.

With the lack of rain there has been increased levels of salt damage which is showing strong symptoms in varying sites. These symptoms could continue into the 2020 season if rainfall events continue to be sparse. The low rainfall effects profile filling, which is a key water management technique that is utilised to ensure minimal salts and that water is available to the tree when coming into production. There are now a range of companies making different water monitoring

techniques available, these tools are becoming quite useful in field providing real time data in how the trees are responding to water applications.

Another key factor to keep in mind coming out of the low rainfall season is to have discussions with your beekeepers leading into the pollination season. Due to the conditions, there is potential that the hives might not be as strong this year with the amount of floral resources not being available to them throughout the winter. It is always important to make sure this communication channel is functioning as we are all aware pollination is one of the most important times throughout the almond calendar year.

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The program gives growers a unique opportunity to study farming practices around the globe for 16 weeks. Applications close on June 14.

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NUFFIELD AUSTRALIA FARMING SCHOLARS



LAST CHANCE: Churchill Fellowships

Hort Innovation partners with the Churchill Trust each year to offer the opportunity to three applicants to travel overseas to investigate a topic of choice, with funding through the Hort Frontiers Leadership Fund. The fellowships are open to any industry participants who have an idea for a research project that can benefit the horticulture sector. It's your last chance to apply, as **applications close on April 30.**

FIND OUT MORE NOW



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churchillfellowships.com.au

Apply from 1 February 2019

Australian Women's Leadership Symposiums

The Australian Women's Leadership Symposiums are a national series of events focused on the experiences of women leaders in the contemporary workforce.

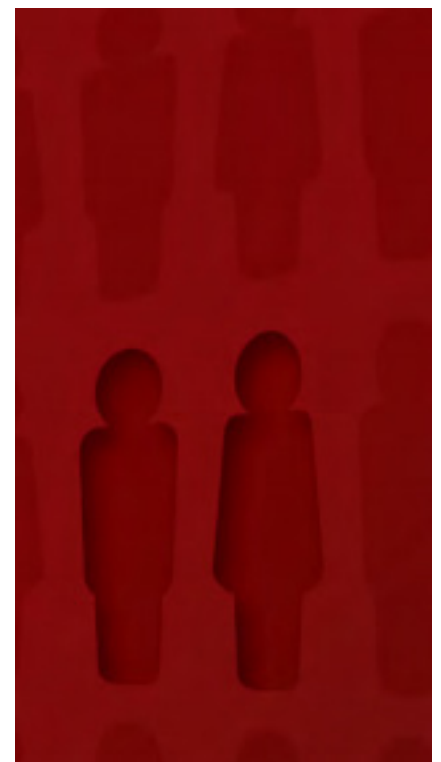
Taking place in every state and territory capital between May and August, the Symposiums are an unparalleled gathering of the best and brightest female talent. Keynote speakers include Tina Arena AM, Ita Buttrose AO OBE, Ming Long, Michelle Cowan, The Right Hon Dame Jenny Shipley, Jacqui Lambie, Jessica Rowe and many, many more.

The symposiums will feature a range of presentations, panel discussions and interactive sessions covering a range of topics, including:

- To Change or to disappear – 3 strategies as a leader to survive in an ever-changing business environment
- Breaking the competency trap and developing adaptive leadership
- Womenkind - Unlocking the power of women supporting women
- Let's talk about non-traditional roles
- Lessons learnt in the world of politics
- Be heard and remembered: How to use your stories to influence effective change in the workplace

An attendance discount of 25% is currently available by entering code ANSY19 at the time of booking (available until each Symposium sells out). For more information and to book:

www.wla.edu.au/symposium





Australian Almond booth at the ANIC Conference



2019 ANIC Conference

The 2019 Australian Nut Conference was held at the Sydney Dockside Convention Centre and ran from March 25 to 27. The Conference opened with Networking Drinks sponsored by the Australian Macadamia Society. The Keynote Speaker on the first day was Mr Bob Carr, the former Commonwealth Foreign Minister and former Premier of New South Wales. Mr Carr spoke about the ways the evolving China-US relationship will affect trading for Australia. Following Mr Carr's presentation, Damien Houlahan, Executive General Manager, Olam Orchards, spoke about the impacts of trade policy in China on edible nuts.

Joseph Ebbage, Market Development Manager of the Almond Board of Australia, presented an update on the Australian almond crop and the Australian almond industry's market development program. The key feature of the Australian Almonds presentation was the launch of the new Australian Almonds App that promotes the heart health benefits of almonds as well as providing a 360 degree virtual tour of an almond orchard in harvest.

The Australian Almond industry is the first in Australian horticulture to leverage the capabilities of Augmented Reality technology to help bring on-pack and instore point of sale graphics to life via our mobile phone App.

2019 'New Season' point of sale was also presented that integrated our App's features to add excitement to retailing Australian Almonds.

The Australian Almonds App is available now to download via your Apple or Google App stores.

2019 Events

APRIL

SUN	MON	TUES	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

April

12 - 14 Fitness Expo, Sydney

MAY

SUN	MON	TUES	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

May

- 1** ABA Plant Improvement Committee Meeting, Loxton
- 2** ABA Market Development Committee Meeting, Loxton
ABA Board Meeting, Loxton
ABA Production Committee Meeting, Loxton
- 9** ABA Almond Centre Committee Meeting, Loxton
- 14-16** Sial China Trade Exhibition, Shanghai
- 23-25** International Nut Congress, Boca Raton USA





Sweet potato

with quinoa, silverbeet, almonds & feta

Serves: 4

Time to make: 1 hr 10 mins (Hands-on time: 15 mins, Cooking time: 55 mins)

INGREDIENTS

- 4 small sweet potatoes (about 200–250g each)
- 2 teaspoons olive oil
- 1 small onion, finely chopped
- 1 garlic clove, crushed
- 1/3 cup quinoa, rinsed, drained
- 100g trimmed silverbeet, chopped
- 2 tablespoons almonds, chopped
- 1 1/2 tablespoons currants
- 50g reduced-fat feta, crumbled
- 2 cups steamed greens (broccolini, snow peas, beans), to serve

METHOD

1. Preheat oven to 180°C. Line a large baking tray with baking paper. Scrub sweet potatoes and pat dry with paper towel; prick all over with a fork. Place potatoes on prepared tray; bake, turning after approximately 20 minutes, for 40–45 minutes, or until soft when pierced with a skewer. Leave cooked potatoes to cool for about 10 minutes.
2. Meanwhile, heat olive oil in a medium saucepan set over medium heat. Add onion and cook, stirring occasionally, until soft. Add garlic and cook, stirring, for 30 seconds, or until fragrant.
3. Add quinoa to saucepan with 3/4 cup water; bring to the boil. Reduce heat to low and cover pan; simmer for 12 minutes, or until quinoa absorbs water and becomes al dente. Remove pan from heat and stir in remaining ingredients (except steamed greens) to make filling.
4. Score potato tops lengthways with a long cut. Open potatoes gently and mash flesh lightly with a fork. Spoon one-quarter of the filling into each potato and return to oven; bake for another 5–10 minutes, or until heated through.
5. Serve stuffed sweet potatoes with steamed green veg.

Recipe source: Australian Healthy Food Guide www.healthyfoodguide.com.au

