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In A Nutshell

Winter/ Spring 2019

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In A Nutshell

The Official Newsletter of the Australian Almond Industry

In this issue...

On the Cover: University of Adelaide Stage 3 breeding trial, Lacton Orchards, Lindsay Point in full bloom.

In A Nutshell

Published by: **Almond Board of Australia Inc, ABN 31 709 079 099**
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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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Some articles within this publication refer to projects managed by Hort Innovation with funding from the grower R&D levy and matched by the Commonwealth Government.

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ALMOND BOARD OF AUSTRALIA

ABA Membership DUE NOW

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

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RESEARCH & DEVELOPMENT FORUM

30th - 31st October 2019

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PRELIMINARY PROGRAM

PGS 14-15

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ALMOND BOARD OF AUSTRALIA

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Looking ahead: the 2019/20 season

ROSS SKINNER: The Regional Meetings held from 1-3 July at Virginia, Loxton, Mildura and Griffith provided an opportunity to assess the major activities that occupied the ABA during the 2018/19 year. From a strategic point of view, many of these activities relate to the recent and continuing expansion of orchard plantings putting pressure on the surety of supply of key production inputs including water, bees, labour, chemicals and fertiliser.

Since the release of the ABA's Water Policy there has been a lot of publicity and support for the policy's objectives from other horticultural industries, community bodies and those within the water industry.

The Murray Darling Basin Plan has taken considerable criticism in the media, however it should be noted that the Plan was about finding a balance between consumptive and environmental use and was not developed as a solution to drought.

Dry conditions and reduced allocations lead to increased water prices as does the issuing of new water use licenses that increase demand. These influence the availability of water for irrigators and its cost. There has been a call by many that the price of water should, in the nation's interest, be determined by those using the water and not by those trading water alone. This applies particularly to those who have the financial capacity to heavily influence the market.

A major element of the ABA Water Policy has been deliverability, with a focus on the constraints to water movement through the system, along with the need to assess the impact of issuing further water use licenses on surety of supply to existing irrigators and those seeking the licenses.

With the expansion of orchards, currently covering 45,000 hectares, comes increased supply and the need to market the larger crops that jumped from 80,000 tonnes in 2018 to 100,000 tonnes in 2019 and is expected to reach 140,000 plus tonnes by 2025.

Market development is therefore a key requirement and the Australian Government's Free Trade Agreements of recent years have positioned the industry well in emerging markets. The trade war between the USA and China has seen a dramatic uptake of Australian almonds into the Chinese market in 2018/19 and this has continued in the 2019/20 marketing year.

In June the Indian government also retaliated by increasing the existing tariffs on US almonds by 20 percent.

The export returns in our currency are enhanced when the Australian dollar is weak and the foreign exchange rate has been close to US$0.70 for most of the year.

Surprisingly, the objective measure of the 2019 US almond crop has been advised as 2.2 billion pounds or 1 million tonnes. Given the increased plantings in the US in recent years, a tonnage estimate for their new crop below their 2018 production, was not expected. With the US industry going through a strong expansion phase, a steady growth in tonnage would be ideal whereas a fall in production followed by a large increase the following year will make marketing in 2021/22 more challenging.

The need for the almond and honey bee industries to work together has never been more apparent. To this end, the ABA and the Australian Honey Bee Industry Council are developing a closer relationship and we have been addressing bee keeper forums to advise the expanding opportunity our industry offers to those wanting to provide pollination services.

> "...the need for the almond and honey bee industries to work together has never been more apparent."

With a good pollination season, followed by similar growing conditions to the past year and a continuation of effective orchard pest and disease control, it is estimated our 2020 crop will be 108,000 tonnes. Let the new growing season begin with continued optimism for the industry, however with some concern regarding the cost of water.

Presenters Ross Skinner (top), Neale Bennett (middle) and Josh Feilke (bottom).

The 2019 regional meetings saw Neale Bennett (ABA Chair), Ross Skinner (CEO) and Josh Fielke (Senior Industry Development Officer) present across the four major growing regions of Australia from July 1-3. The meetings were aimed at highlighting the current status of the industry regarding input surety, current pest and disease pressure and an update on the domestic and export marketing programs.

Neale Bennett begun the presentation by explaining the ABA's role of implementing the new Strategic Plan which aims to 'profitably and sustainably develop the industry'. This will be achieved in accordance with the five key pillars that currently sustain the industry in upholding demand, yield and quality, whilst managing risk and input costs.

As the Australian industry moves to upwards of 55,000 hectares planted, the surety of water, pollination, labour and chemicals will need to be addressed in order to meet the industry demands. In response to this, the ABA has formed a Water Committee which in turn, has generated a Water Policy. The role of the policy is to call on the Murray-Darling Basin states to place a moratorium on new water use licenses until an audit can review the capacity of the system to meet the requirements of the already established irrigated plantings. In addition, chemical surety continues to be on topic with the EU putting pressure on various products, highlighting the importance of closely monitoring the situation prior to chemical purchase and applications.

Josh Fielke presented on the current extension activities that are in progress along with an update on pests and disease. Josh discussed various projects that are aimed at increasing orchard efficiency whilst decreasing the size of our trees in a bid to help manage pests and disease. This stems from the research and development strategic plan which looks to, 'support horizon one orchards and develop horizon three orchards'. The Almond Centre of Excellence was put on display with aerial photography showcasing the property from its infant stages through to its current plantings and infrastructure. The role of the orchard was further discussed along

Neale Bennett presenting at the Loxton Regional Meeting at the Loxton Research Centre on July 1.

with its synergistic arrangement with the Mid Area at Irymple, Victoria.

The domestic and export marketing programs update was prepared by Joseph Ebbage (Marketing Manager) and presented by Ross Skinner. The 2018-19 domestic sales resulted in a decline by 3 percent however, total exports were up by 12 percent largely due the strong drive to export into China. It is pleasing to note that almonds remain the number one tree nut ingredient in new products hitting the shelves throughout Australia. This has been attributed to work done in collaboration with the AFL Player's Association and Sophie Falkiner whereby Australian Almonds were put on show to a large audience promoting our product and helping promote the ABA's social media presence.

The export market continues to grow through free trade agreements with Korea, Japan and China while talks are underway with the EU and the UK. The relationships with these countries have been built on the back of a quality product and a strong presence in various international events such as China International Tree Nut Conference, Foodex – Tokyo and Gulfoods - Dubai just to name a few.

Finally, thankyou for the attendance at each of the meetings and we look forward to continuing to build our grower relationships and product quality into the 2019-20 season.

Honeybee R&D funding landscape

DANNY LE FEUVRE: With the almond industry continuing to expand at high rates there has been vast media exposure focusing on the need for more hives for pollination. Therefore, the question is raised: What is being done to assist this need?

This article provides an overview of current research being conducted to stimulate growth within the honeybee and pollination industries.

"Honeybees are vanishing and dying at alarming rates".

This headline is grabbing attention around the world. In Australia we know this headline not to be true, however, the rise in the global profile of the humble honeybee is influencing our local industry.

As an industry we are in unchartered territory.Unprecedented public interest in the "save the honeybee" global movement has seen recreational apiarists, for the first time, eclipse commercial beekeepers. Whilst commercial beekeepers still control around 80 percent of the national bee hives, recreational beekeepers are estimated to make up around 80 percent of the registered apiarists.

This movement, to some, may be seen as a threat but the reality is that there has been significant benefits from this public interest. Research and development has always been underfunded in the honeybee industry. Levy collections from honey sales matched by federal government has funded the majority of R&D spend within the honeybee industry. This has been managed by AgriFutures (formally RIRDC) through a honeybee and pollination panel that oversees the spend.

Public interest and resulting political interest has seen a number of other sources of R&D buckets emerge in the past few years. This space is becoming busy with a number of topics being covered by a number of different organisations and for the members of our honeybee dependent industries looking from the outside in, it can be confusing and hard to see what research is happening.

AgriFutures

This group manages the honeybee industry R&D levy collected on honey sold. Priority areas are broad and there are many projects being funded some of which include developing higher value honey through investigating the medicinal properties of honey, developing technology for the non-invasive hive health diagnoses (particularly useful for the almond industry), probiotics for honeybees to improve hive health and improved honeybee

genetics. More information can be found at https://www.agrifutures.com.au/rural-industries/honey-bee-pollination/

Hort Innovation

The Hort Frontiers Pollination Fund also funds a range of projects, but with a specific pollination theme. These projects range from finding alternative pollinators like stingless bees and flies to ensuring the efficient use of honeybees as pollinators. Specific projects and updates can be found at http://horticulture.com.au/co-investment-fund/pollination-fund/

Federal Rural R&D for Profit Program

This is a Commonwealth pool of $157 million funding that expires in 2022. The aim of this money is to boost funding for nationally coordinated, strategic research that delivers real outcomes for Australian producers. The honeybee industry has three current programs running including 'Pollination for Profit' that is researching a range of broad pollination issues. This includes establishing the numbers of feral bee colonies in a landscape, determining the most beneficial floral resources to complement pollination dependent crops and research into what species of insect will pollinate what crop. This program is being managed by AgriFutures and totals $13.1 million investment.

'Protected cropping', managed by Hort Innovation

This project is new and will look at the issues in pollinating crops in protected (under hail netting, tunnels etc) environments across a broad range of crop types. This project has investment of around $5 million.

The 'Honeybee genetics improvement program' is also a new project that is being managed by Agrifutures and has a total investment of $3.6 million. This project aims to develop a breeding and evaluation program incorporating existing queen breeding programs from across Australia. This will establish breeding values for queen lines allowing beekeepers to make more informed decisions when purchasing genetic stock.

CRC for Honey Bee Products (CRCHBP)

The CRC was established in 2017 and has an impressive list of projects with the broad research areas are as follows: honeybee hive sites, honeybee health, honeybee products and honeybee product chain of custody. Under these themes there are some 29 different projects utilising resources from across the country. With only a year of funding to go the pressure is on this group to source more funding to further develop the projects. Currently based in Western Australia the projects have impacts for all beekeepers but not so much for the pollination dependent industries like almonds. More information at http://www.crchoneybeeproducts.com/

The Wheen Bee Foundation

This organisation was formed from a bequeathed estate left by Gretchen Wheen that is managed by a board and supported by a CEO. One of the group's objectives is 'to support research, development and extension activities that will improve the efficiency of honey bee pollination in dependent food crops'. They support a number of activities and smaller research programs that include areas in honeybee health, novel ways to trap honeybee pests as well some hygienic hive assessment work. This organisation is great at providing partnerships with other programs to enhance the outcomes. More information at https://www.wheenbeefoundation.org.au/

In addition to the identified organisations there are numerous Universities around the country funding R&D work into varying aspects of honeybees including pollination.

It is an exciting time in the honeybee industry and with the unprecedented interest and investment, the future of our industry is looking bright.

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30-31 October 2019

The forum is your opportunity to hear all the latest in almond research, speak directly with the researchers and to network with other members within the almond industry.

VENUES

The **Loxton Research Centre** is a showcase for South Australia's extraordinary River Murray region, supporting and promoting our global reputation as a leader in agriculture and producer of premium food and wine from our clean environment. The Loxton Research Centre recently underwent a $7.5 million redevelopment, funded as part of the $265 million Australian Government-funded South Australian River Murray Sustainability (SARMS) Program. The new look centre forms a collaborative hub, bringing together industry, research, education and government to drive agriculture and business innovation in South Australia, Australia and overseas. The Centre sits beside a newly constructed building, which encompasses a state-of-the art conference facility that seats up to 200 people, meeting areas, demonstration kitchen and flexible working spaces.

The **Almond Centre of Excellence Experimental Orchard** is a 60-hectare site purchased by the South Australian Government in 2016 and leased by the Almond Board of Australia to develop with funding support from the Australian and South Australian Governments. Based five kilometres from the Loxton Research Centre, the orchard is a home for the almond industry's research and development program.

The experimental orchard will trial all aspects of almond growing to deliver input efficiencies and risk mitigation for existing production systems for the hectares of conventional orchards currently planted in Australia. It will also have trials aimed at developing new production systems in terms of varieties, rootstocks, spacings, tree architecture and harvesting methods to increase nut yields and quality from smaller more manageable trees.

REGISTRATION

Please follow **this link** to register for the forum and field day. Registrations close on Monday 28th October 2019. ***It is not possible to attend without registering.***

ACCOMMODATION

Accommodation in Loxton is limited and we recommend the below accommodation providers. These venues are located within the township of Loxton and a short distance from both the Loxton Research Centre and Almond Centre of Excellence Experimental Orchard.

Loxton Hotel

45 East Terrace, Loxton SA 5333 P +61 8 8584 7266 E loxtonhotel@loxtonhotel.com.au W www.loxtonhotel.com.au/stay

Loxton Courthouse Apartments

45 Bookpurnong Terrace, Loxton SA 5333 P 0499 850 833

E admin@loxtoncourthouseapartments.com.au

W www.loxtoncourthouseapartments.com.au

For further details regarding the event please contact Abigail Quirke at the ABA Office on +61 8 8584 7053 or ***aquirke@australianalmonds.com.au***

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FORUM PROGRAM - PRELIMINARY

Wednesday, 30th October 2019
Loxton Research Centre, Loxton South Australia

8:00	Registrations Open & Sign In	
9:00	Official Welcome Address	Neale Bennett Almond Board of Australia
9:10	Word from the Platinum Sponsor	David Cavallaro Stoller Australia
9:20	Hort Innovation	Anthony Kachenko Hort Innovation
9:35	Integrated Disease Management in Almonds	Jacky Edwards Agriculture Victoria
9:55	An Integrated Pest Management Program for the Australian Almond Industry - One season in	Paul Cunningham Agriculture Victoria
10:15	*Panel Discussion*	
10:25	Morning Tea	
10:55	Almond Productivity: Tree Architecture and Development of New Growing Systems	Grant Thorp Plant and Food Research Australia
11:10	SARDI Projects at the A.C.E Experimental Orchard	Tim Pitt South Australian Research & Development Institute
11:25	Update on Agriculture Victoria's Mildura Experimental Orchard and Victorian Research Developments	Michael Treeby Agriculture Victoria
11:40	Spur Dynamics	Zelmari Coetzee Agriculture Victoria
11:50	Australian Almond Varieties - Breeding Update	Michelle Wirthensohn University of Adelaide
12:10	Better Tree Performance and Water Use Efficiency Through Root System Resilience Project Update	Everard Edwards Commonwealth Scientific and Industrial Research Organisation
12:30	*Panel Discussion*	
12:40	Lunch & AGM Sign In	
13:25	Almond Board of Australia Annual General Meeting	Neale Bennett - Chairman Ross Skinner - Chief Executive Officer
14:10	TBA	Ben Hooper South Australian Apiarists Association
14:30	Bee Friendly Plantings	Katja Hogendoorn University of Adelaide
14:50	Hive Health	T.B.A Ecrotek
15:10	*Panel Discussion*	
15:20	Afternoon Tea	
15:50	Water Trading Market/Deliverability	T.B.A Waterfind
16:10	Managing Almond Production in a Variable and Changing Climate	Dane Thomas South Australian Research and Development Institute
16:30	*Panel Discussion*	
16:40	Day Close	Neale Bennett Almond Board of Australia
16:45 - 17:45	Light Catering & Refreshments	

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The organisers reserve the right to amend this program, please visit **http://industry.australianalmonds.com.au/** for updated program details

FORUM & FIELD DAY PROGRAM - PRELIMINARY

Thursday, 31st October 2019
Almond Centre of Excellence Experimental Orchard, Loxton South Australia

8:30	Registrations & Sign In	
	Breakfast Roll & Coffee	**Catering Sponsored By:** conservis
9:00	Welcome Address & Overview of Almond Orchard of Excellence	Ross Skinner Almond Board of Australia
9:10	Word from the Catering Sponsor	T.B.A Conservis Corporation
9:20 - 9:40	The Effects of Winter Banding of Nitrogen with Compost Application in Almonds	Upul Gunawardena Select Harvest Ltd
9:40 - 10:00	On Farm Hulling & Moisture Management	John Fielke University of South Australia
10:00 - 10:20	Gallard Mulcher & Seed Terminator Demonstration	
10:30 - 13:00	Machinery Site Visits & Demonstrations	
11:00-13:00	Sausage Sizzle Open	**Catering Sponsored By:** conservis
11:40 - 12:00	Plant Based Irrigation Decisions	Mark Heyward Phytech
12:00 - 12:20	Irrigation Best Practice Management	Mark Skewes South Australian Research & Development Institute
12:20 - 12:40	Almond Harvesting & Drying & Update on Californian Almond Trials	Michael Coates Plant & Food Research Australia
13:00	Day Close	

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We sincerely thank our partners and sponsors of the 2019 Australian Almond Research & Development Forum & Field Day

Almond Centre of Excellence (ACE) experimental orchard update

JOSH FIELKE: The last orchard update in this publication was in 2017 with much of the orchard being planted since then. The experimental orchard continues to develop and is now undergoing its first pollination season with the first load of bees delivered on August 6. With this, the orchard will produce its first crop to be harvested in 2020. The following basic information is about what you can expect to see planted in addition to the Horizon 1 and Horizon 2 resource plantings. A full update will be provided in October at the 2019 Australian Almonds Research and Development Forum by the relevant partners.

University of Adelaide Breeding Trial

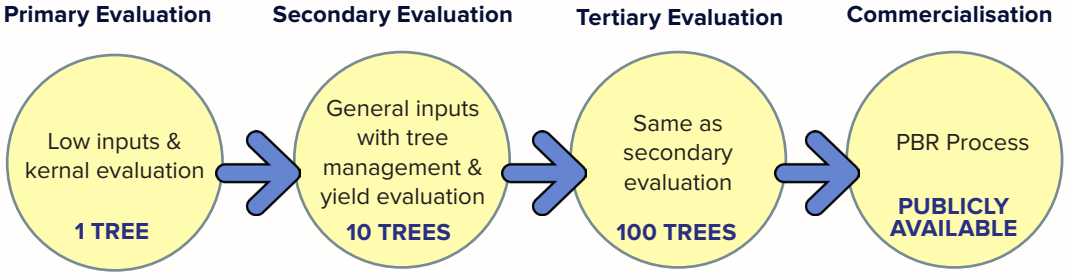
There are now 70 different varieties planted for evaluation and comparison comprising of 33 varieties in secondary trials (group of 10 trees), 8 varieties in a tertiary trial (full rows of a variety), 16 international varieties (groups of 10 trees) and 13 other varieties as comparators (groups of 2). The stages of evaluation are as follows in Diagram 1 below:

South Australian Research and Development Institute

Trial 1 - Soil Amelioration Trial (SARDI)

Planted in September 2018, the trial continues to develop with the required inputs at the various rates. Organic matter (compost) was applied at 0, 10 and 50 T/ha pre-planting, or 10 T/ha annually. Organic matter was incorporated by rotary hoe to 100mm, spader to 300mm depth or slurry injection to 450mm. Ryegrass pre-treatment, with soil mounding and managed ryegrass growth (Supersoil system) is also being tested. Irrigation methods include dripper, full sprinkler and dripper plus supplementary sprinkler for cover crop. Various technologies are being utilised to monitor the site including tree growth and soil physical parameters.

DIAGRAM 1: STAGES OF COMMERCIALISATION



THE UNIVERSITY of ADELAIDE

Trial 3 – H1 to H2 Optimised Density

This trial tests the response of four varieties in a six step density progression from 307 trees/ha (H1) to 615 trees/ha (H2). This 5 ha trial features Nonpareil, two self-fertile University of Adelaide selections, Carina and Vela, plus the international self-fertile selection Shasta, all on Garnem rootstock. Trial 3 was planted in July 2018 and will assess the economic viability and practicalities of a continuum of planting densities from H1 to H2.

Trial 4 – H2 to H3 Optimised Density

Extending from Trial 3, Trial 4 is aimed at testing a three density transition between 635 trees/ha (H2) and 1481 trees/ha (H3). This 1.5 ha trial combines Vela and Shasta with three low vigour rootstocks, Controller-6, Controller-7 and Rootpac-40). Trial 4 was planted in May 2019 and will assess the viability of a continuum of planting densities from H2 to H3.

Trials 5 and 6 – Rootstock/ Scion Compatibility

2 ha of screening trials have been established to gauge graft compatibility and suitability of tree habit for higher density production systems under Australian growing conditions. Over 140 graft combinations have been planted at two densities (H2 and H3) across two screening trials.

The first screening trial, Trial 5, focusses on 13 different vigour rootstocks on which five traditional and newly released scions have been grafted. The second, Trial 6, focusses on 20 (form diverse) scions including traditional, newly released and unreleased material grafted onto four 'best bet' rootstocks of different vigour. Both trials were planted in July 2018.

Plant & Food Research Australia

Plant & Food Research projects at the ACE orchard in Loxton are focused on the development of new, intensive growing systems with the intention to "double almond yields but without increasing costs". Obviously this is a significant challenge, but one that has been achieved with the right approach in other cops such as apple and kiwifruit. The approach requires a fresh look at orchard design with new more intensive planting systems, new cultivars with architectural attributes suited to high density orchards and new pruning/ training systems adapted to suit these.

Preliminary work over the past 5 seasons in Australia, with support from California and Spain, has helped us to identify our current model system based on trees planted in rows 4.5 m wide, with 2.0 m between trees along the rows with trees expected to grow to 5.0 m tall and be suitable for shake harvesting.

High Density Trial

This trial is testing the model "high density" system against the more traditional high density blocks planted in Australia. Planted in July 2018, with the cultivars Shasta and Vela on Nemaguard, the project is comparing planting densities with 513 (6.5 x 3m), 769 (6.5 x 2m), 741 (4.5 x 3m) and 1,111 trees per ha (4.5 x 2m). The objective is to grow tall, narrow "slender pyramid" shaped trees with minimal pruning to maintain a 2.0m wide gap between the rows for machinery access. The trial is worth viewing to get a first hand look at what almond orchards of the future might look like.

Architectural Studies

This project is comparing a range of varieties/genotypes to help identify architectural traits suited to high density growing systems. We have 15 genotypes including the six new cultivars released from the University of Adelaide breeding program as well as other unnamed genotypes identified to have growth habits suited to high density plantings. Nonpareil is the control variety. All trees were planted in July 2018 on Garnem rootstock at 4.5 x 3m spacing. Data are being collected to identify varieties/genotypes that easily form and maintain a strong central leader growth habit which we believe is essential to forming the desired tall "slender pyramid" shaped tree. One of the genotypes has a strong upright compact growth habit which is worth a look at to see what future varieties might look like.

Pruning Responses

This study is looking at various tree management systems, starting in the nursery and followed up in the orchard with different training/ pruning methods to produce a central leader tree. The project includes five mainstream varieties (Nonpareil, Maxima, Carina, Shasta and Vela) planted in July 2018 at 4.5 x 3m spacing. An interesting option that looks promising has trees budded in late summer 2018 and planted the same year with a "sleeping eye" bud. This bud then grows out in spring and quickly establishes a strong central leader structure with no or minimal pruning. This option would significantly reduce tree costs and provide a low cost but effective option when establishing new high density orchards.

Government of South Australia
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Plant & Food RESEARCH AUSTRALIA

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Flowering Field Walk overview

A research update was held on 14 August 2019 to look at four different projects currently funded through Hort Innovation. The first focus was the Spur Dynamics project led by Zelmari Coetzee (Agriculture Victoria) looking at the various life cycles of spurs on different varieties. An update was provided of the root system resilience project by Everard Edwards (CSIRO), including an overview and examples of how the project is evaluating root growth on the variable nutrition and water input sites. Updated results of the survey of the first year of the Integrated Disease Management program were provided. Discussion was held into the cause and effect of hull rot with Tonya Wiechel (Agriculture Victoria) and lower limb dieback with Brittany Oswald (SARDI).

Participants viewed the site where the described trials (or part of the project) are located. Michelle Wirthensohn (University of Adelaide) discussed the breeding project showing the various varieties that are progressing to, or are in, full bloom (pictured above).

Keep an eye out for the 'Key Points' video!!

The Almond Board of Australia would like to thank **CMV Orchards** and **Lacton Orchards** for providing their sites for the field day and for their support of these projects. Also we thank Stoller for their support through their platinum sponsorship.

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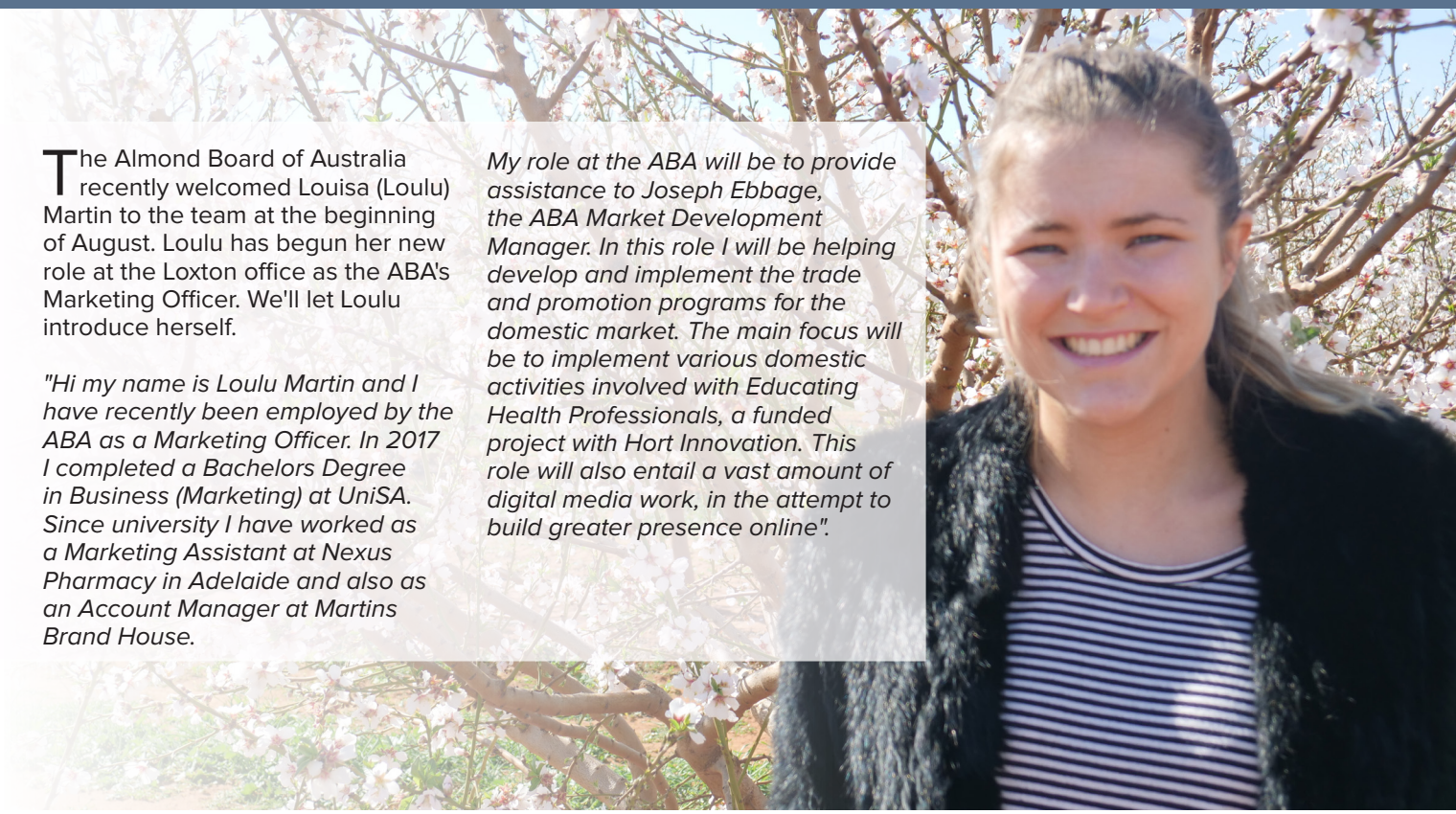
- PC and Non-Drain options

Loulu Martin appointed as ABA's Marketing Officer



The Almond Board of Australia recently welcomed Louisa (Loulu) Martin to the team at the beginning of August. Loulu has begun her new role at the Loxton office as the ABA's Marketing Officer. We'll let Loulu introduce herself.

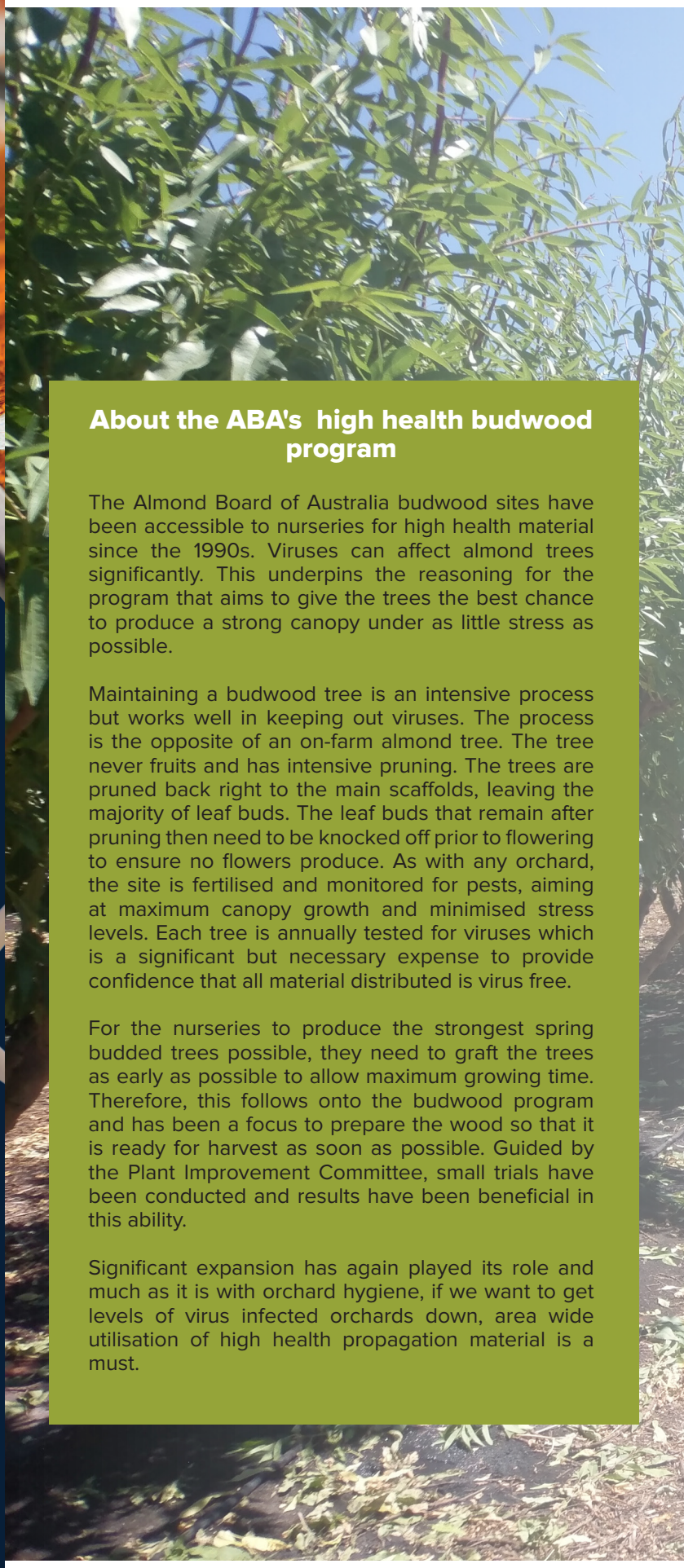
"Hi my name is Loulu Martin and I have recently been employed by the ABA as a Marketing Officer. In 2017 I completed a Bachelors Degree in Business (Marketing) at UniSA. Since university I have worked as a Marketing Assistant at Nexus Pharmacy in Adelaide and also as an Account Manager at Martins Brand House.

My role at the ABA will be to provide assistance to Joseph Ebbage, the ABA Market Development Manager. In this role I will be helping develop and implement the trade and promotion programs for the domestic market. The main focus will be to implement various domestic activities involved with Educating Health Professionals, a funded project with Hort Innovation. This role will also entail a vast amount of digital media work, in the attempt to build greater presence online".

HEALTH: Almonds significantly reduce risk factors for cardiovascular disease

New research out of the United States has again strongly linked the consumption of almonds with a host of health benefits. The evidence suggests that eating nuts may reduce the risk of cardiovascular disease (CVD). A systematic review and meta-analysis of RCTs showed that almonds significantly reduce total cholesterol, body weight and apolipoprotein B.

The full research acrticle can be accessed at https://www.ncbi.nlm.nih.gov/pubmed/31243439



About the ABA's high health budwood program

The Almond Board of Australia budwood sites have been accessible to nurseries for high health material since the 1990s. Viruses can affect almond trees significantly. This underpins the reasoning for the program that aims to give the trees the best chance to produce a strong canopy under as little stress as possible.

Maintaining a budwood tree is an intensive process but works well in keeping out viruses. The process is the opposite of an on-farm almond tree. The tree never fruits and has intensive pruning. The trees are pruned back right to the main scaffolds, leaving the majority of leaf buds. The leaf buds that remain after pruning then need to be knocked off prior to flowering to ensure no flowers produce. As with any orchard, the site is fertilised and monitored for pests, aiming at maximum canopy growth and minimised stress levels. Each tree is annually tested for viruses which is a significant but necessary expense to provide confidence that all material distributed is virus free.

For the nurseries to produce the strongest spring budded trees possible, they need to graft the trees as early as possible to allow maximum growing time. Therefore, this follows onto the budwood program and has been a focus to prepare the wood so that it is ready for harvest as soon as possible. Guided by the Plant Improvement Committee, small trials have been conducted and results have been beneficial in this ability.

Significant expansion has again played its role and much as it is with orchard hygiene, if we want to get levels of virus infected orchards down, area wide utilisation of high health propagation material is a must.

Virus detection & prevention

JOSH FIELKE: It is well known throughout the almond industry that viruses such as *Prunus* Necrotic Ringspot Virus are prevalent. Unfortunately, for the most part there is also very little known about it. To address this, Agriculture Victoria along with the ABA have produced a new Fact Sheet to assist with identifying viruses, bacteria and viroids in almonds and most importantly, what to do about it.

Extracts from the Fact Sheet

A review of literature identified 60significant pathogens of *Prunus* species occurring worldwide and 48 of those pathogens were exotic to Australia. Of the 48 exotic pathogens infecting *Prunus*, three bacteria, 13 fungi, eight phytoplasmas, seven viruses and one viroid are known to infect almonds (Table 1 – fact sheet). Pathogens that occur in Australia and could infect Australian grown almonds include three bacteria, seven viruses and two viroids. Except for cucumber mosaic virus (CMV), most of these should be monitored visually or by laboratory testing in a program that produces high-health planting material (Table 2 – Fact sheet page 6).

The molecular tests were assessed during a national survey, in which 100 *Prunus* trees, comprising 33 almonds, 54 summerfruit species and 13 cherries, were tested for the presence of five bacteria, 10 phytoplasmas or phytoplasma groups, 34 viruses and three viroids. In this survey, bacteria, viruses and viroids were detected in 70 per cent (70/100) of samples. The viruses and viroids that are known to occur in Australia and that were detected in samples from this survey included apple chlorotic leafspot virus (ACLSV), apricot pseudo-chlorotic leaf spot virus (APCLSV), apple mosaic virus (ApMV), apple stem grooving virus (ASGV), cherry virus A (CVA), prune dwarf virus (PDV), prunus necrotic ring spot (PNRSV), hop stunt viroid (HSVd), little cherry virus 2 (LChV2) and peach latent mosaic viroid (PLMVd). ASGV occurs in other crops in Australia and was detected in one plum tree. PNRSV was detected in 51 per cent (51/100) of the Prunus trees that were tested and in 17/33 almond trees tested. ApMV, HSVd and the bacterium Agrobacterium tumefaciens were each detected in one almond tree.

Prunus Necrotic Ringspot Virus (PNRSV), *Prunus* Dwarf Virus (PDV) and Apple Mosaic Virus (ApMV) are important viruses of almonds in Australia. In almonds, PNRSV has been associated with necrotic shock, bud failure, calico and chlorotic mottling. It may be symptomless in some almond cultivars. When PNRSV occurs in mixed infection with other viruses, such as PDV, the impact of virus infection can be greater, causing severe stunting in some species and varieties of *Prunus*. Yield losses of up to 60 per cent have been reported in trees infected with PNRSV and PDV. In *Prunus* species, both PNRSV and PDV are spread in pollen and seed as well as in propagation material, whereas ApMV is only transmitted vegetatively. There is some evidence for spread of ilarviruses, particularly PNRSV and PDV, by vectors including mite (*Aculus fockeui*), nematode (*Longidorus macrosoma*) and thrips (*Frankliniella occidentalis*).


JULY 2019

ALL ABOUT ALMONDS

ORCHARD MANAGEMENT

VIRUSES IN AUSTRALIAN ALMONDS

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AGRICULTURE VICTORIA

Almonds don't lactate, but that's no reason to start calling almond milk juice

The following is from an article prepared by Dan Weijers, Senior Lecturer in Philosophy, Co-editor International Journal of Wellbeing, University of Waikato, and Nick Munn, Senior Lecturer in Philosophy, University of Waikato. This article is republished from *The Conversation* under a Creative Commons license. Read the original article here.

A rural advocacy group in New Zealand wants milks made from plants, such as almond or rice milk, called juices.

At a conference about disruptive innovations in food production recently, dairy industry spokespeople criticised the "milk" labelling of non-dairy products such as almond or rice milks.

Federated Farmers, a rural advocacy group, prompted media headlines with a suggestion that we should call a beverage made from almonds almond juice because it is "definitely not a milk under the definition in the Oxford dictionary".

In a similar vein, the chief science officer for the dairy cooperative Fonterra, the world's largest dairy exporter, said:

"These plant-based milks have a positioning that says they are milk and that they are plant-based. Unfortunately, from a content basis, they are providing inferior nutrition compared to what you find in dairy products."

Their position is that labelling plant-based beverages as milk is misleading consumers into buying nutritionally inferior products. This position is gaining momentum around the world. The US Food and Drug Administration (FDA) is considering making "milk" a label exclusive to dairy products. And the European Court of Justice has already upheld a law restricting the use of dairy terms on soy products (even though almond milk is exempt). We disagree. Calling the product "almond milk" makes sense and doesn't mislead anyone.

Defining milk

"An almond doesn't lactate," according to FDA Commissioner Scott Gottlieb, so almonds cannot be milked. But defining milk by its method of production won't cut it. The US-based company Perfect Day, for example, makes milk without the involvement of any udders or even cows. They genetically modified a protein-creating microorganism to produce the same proteins found in cow's milk: casein and whey.

A more useful way to define something is to look at its intended function. Consider a mouse trap. A mouse trap is a thing that is designed to trap mice. These traps use various materials and trapping mechanisms, but these differences don't matter. The function of all these traps is the same, so they are all "mouse traps".

Almond milk and other plant-based beverages function as milks. They go well with cereal, can be consumed by themselves, and provide nutrition. In fact, almond milk has been used widely as an animal milk substitute since the middle ages. Plant-based milks do what animal milks do, with the advantage of being acceptable for people who cannot or do not want to consume animal milks.

Just like different traps are "mouse traps" because they all have the function of trapping mice, different kinds of consumable liquid, from cows, goats, coconuts, soy or almonds are all "milks" because they all perform the functions we associate with milk.

Milk and nutrition

Animal milk is nutrient rich and more nutrient rich than many plant-based milk alternatives. But, basing the definition of "milk" on nutritional claims might not help the dairy lobby distinguish their products from plant-based alternatives.

As soon as a nutrition threshold is set for milk, plant-based beverages could be fortified with additives until they became milks. Some soy milks are already fortified with calcium and nutrients to aid calcium absorption. Emulating the higher levels of protein and certain vitamins and minerals (but presumably not fat and sugars) might not be too challenging, especially given the impressive, ongoing advances in food technology.

Given that almond milk performs all of the milk functions we expect, including having some nutritional value, it makes sense to call it "milk".

Misleading consumers

Even if you don't like functional definitions, consumers are not being misled by product names like "almond milk". Consumers don't think that peanut butter has dairy butter in it. They also don't think that almond milk is cows' milk with almond flavouring.

The companies making almond milk should not want consumers to think their product has dairy in it. Many consumers of plant-based milks choose them because they want milk but not the dairy-related moral or dietary problems that come with it. If many people believed that almond

milks contained dairy, the companies would quickly change the name to almond juice.

Consumers also aren't misled by the lower nutritional value of plant-based milks (relative to animal-based milks). Only very health-conscious people buy animal milk for a specific nutrition profile. And, very health-conscious people read nutritional labels, so they are not going to be misled by low-nutrition juices masquerading as milks.

Being misled about a product can have harmful effects. Requiring cars to be sold with a recent warrant of fitness is important because it can prevent the expensive mistake of "buying a lemon". Labelling poisons as such is even more important because poison-related consumer mistakes could be deadly. But we need to find a workable balance between adequately protecting consumers and not placing too many burdens on producers.

Consumers realise that almonds don't lactate, and that plant-based milks are designed to be functional alternatives to animal-based milks. So, the name "almond milk" doesn't mislead anyone.

Image source: integrativerd.org

STRATEGY 2019-23: The new way forward

Launched on 1 July 2019, the Hort Innovation Strategy 2019-2023 represents a strong new way forward for your grower-owned research and development corporation – and for Australia's horticulture sector as a whole. It lays out Hort Innovation's focus, goals and key activities for the next four years, all of which are closely aligned to the industry's needs, now and into the future.

You can see the new strategy and what it means for you at

www.horticulture.com.au/strategy-2019-2023/

for horticulture's RDC

A NEW FOCUS on EXTENSION & ADOPTION

One important change under the strategy is the development of a new Extension & Adoption function. This and other initiatives will be focused on getting practical investment outcomes, resources and knowledge directly to growers.

A SUSTAINABILITY FRAMEWORK for HORTICULTURE

Under the new strategy, Hort Innovation will be building a sustainability framework for Australian horticulture, to help the sector proactively manage emerging issues now and in the future. to growers.

A SHARPENED FOCUS on DELIVERING CONSUMER INSIGHTS & IMPROVING the UNDERSTANDING of DOMESTIC & INTERNATIONAL MARKETS

This is all about helping industry influence consumers, and expand and strengthen presence in markets.

MORE COLLABORATIVE, ACROSS-HORTICULTURE INVESTMENTS

While this won't reduce the importance of investing in issues for single industries, Hort Innovation will work to deliver more multi-industry collaboration in RD&E, marketing and trade. This will support more effective and efficient outcomes for growers and the wider horticulture sector.

The Hort Innovation Strategy 2019-2023 was developed with vital input from growers and other horticulture participants, which was sought through consultation workshops in 20 locations across regional Australia, and via an online feedback mechanism. All up, more than 350 participants contributed to the thinking behind the strategy.

Hort Innovation
Strategic levy investment

ALMOND FUND

Complete your Annual Levy Return + secure Hort Innovation voting entitlements

For Hort Innovation members that pay a statutory or voluntary industry levy, completing an Annual Levy Return form is the way to secure voting rights for the company's Annual General Meeting (AGM), which this year is being held on Friday 22 November 2019. This year the AGM will see members elect one Director to the Hort Innovation Board.

Paying a levy doesn't automatically make you a member of Hort Innovation.

***If you're not currently a member** but do pay a levy and wish to sign up for the opportunity to secure voting rights in time for the AGM, don't delay! Make sure you submit a free membership application at www.horticulture.com.au/membership by no later than **Thursday 12 September 2019.** You'll then receive all the necessary Annual Levy Return information from Link Market Services, the independent provider that's managing the process.

If you're already a member, you should have recently received a letter and email with full details from Link Market Services. If you'd like to follow this correspondence up, please contact Link on 1800 660 083 (free call within Australia).

Your completed Annual Levy Return must be received by Friday 27 September 2019. It can be submitted online or by post. For more information, visit www.horticulture.com.au/agm-2019 or call Link on 1800 660 083.

Hort Innovation

2019 Events

AUGUST

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

SEPTEMBER

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					

August

1 ABA Plant Improvement Committee Meetings, Adelaide

5-7 2019 China International Tree Nuts Conference, Zhengzhou, Henan Province, China

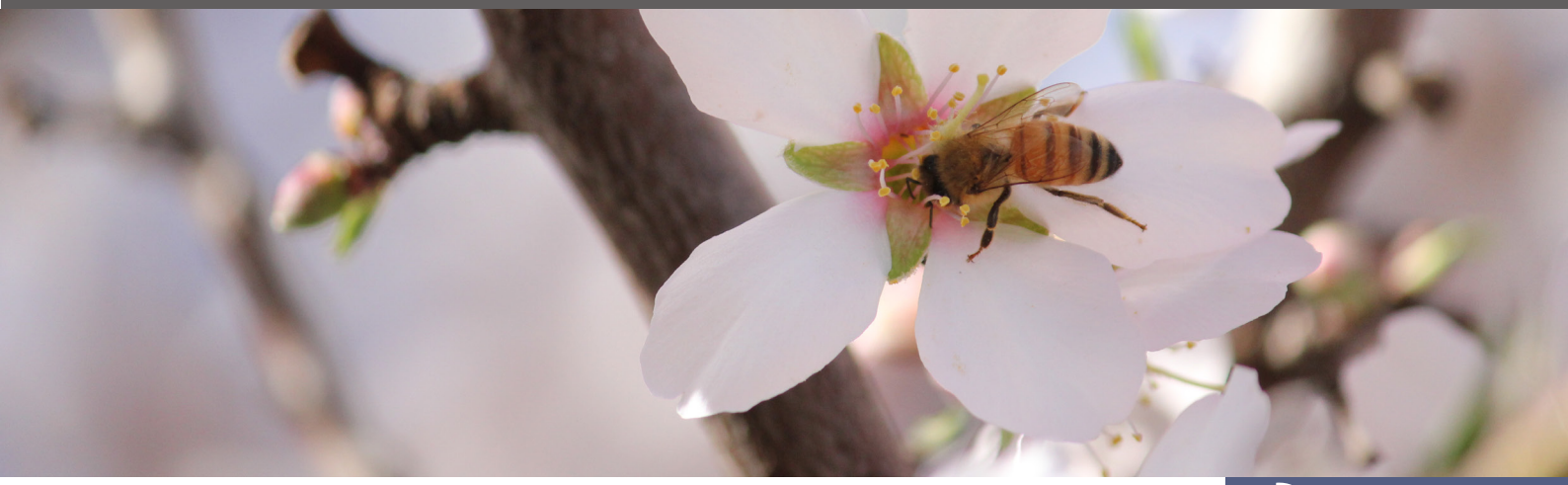
8-10 Sydney City to Surf Expo, Sydney

14 2019 Flowering Field Walk and Project Updates, Paringa & Lindsay Point

28 ABA Market Development Committee Meeting, Mildura.
ABA Production Committee Meeting, Mildura

29 ABA Board Meeting, Mildura

September



ROASTED VEGETABLE SALAD

Servings: 4
Prep time: 30 minutes

INGREDIENTS

Salad

- 1 medium beet washed, peeled, and diced
- 1 cup butternut squash or sweet potato peeled and diced
- 2 Tbsp pumpkin seeds
- 2 Tbsp sliced almonds
- 1/4 cup dried cranberries
- 1/4 cup dried apricots diced
- 6 generous handfuls mixed baby greens or spinach
- Cooking oil spray

Agave Dijon Vinaigrette

- 2 Tbsp dijon mustard
- 2 Tbsp apple cider vinegar
- 2 Tbsp agave nectar or maple syrup
- 2 Tbsp extra virgin olive oil
- 1/2 tsp sea salt
- 1 tsp dried thyme
- 1 tsp garlic powder

METHOD

1. Preheat oven to 200 degrees C.

2. Line a baking sheet with foil and spray with an even layer of cooking oil. Spread diced beets and sweet potato or squash in an even layer. Bake for about 30 minutes until tender and brown on the edges.

3. While the vegetables are roasting, add all dressing ingredients to a mixing bowl and whisk until well combined. Set aside.

4. Place mixed greens into a large bowl and toss with about half of the dressing. Layer the greens with the roasted vegetables, almonds, pumpkin seeds, dried cranberries and dried apricots. Serve with remaining dressing on the side.

Recipe source: tryveg.com/recipe/roasted-vegetable-salad/