

In A Nutshell

The Official Newsletter of the Australian Almond Industry

Autumn 2020



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who came out on top?

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independent chair

NEW irrigation
assessment resource

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Autumn 2020

In A Nutshell

The Official Newsletter of the Australian Almond Industry

Published by: **Almond Board of Australia Inc**

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From the Executive...



Peter Hayes | Chairperson
Ross Skinner | CEO

THE international coverage of the Australian bushfires has been extensive and has caused concern amongst the nut trade overseas. Their messages of support have been heartening knowing that the international community comes together in times of natural disaster. It has been with relief that we have been able to advise that the almond producing regions have been unaffected by fire and that we are heading towards a crop that will be similar to that harvested in 2019.

Hot, dry growing seasons typically produce the potential for high quality almonds depending on the weather experienced during the harvest period.

The focus on orchard hygiene by Australian growers, and the further investment in sorting equipment by almond processors, has lifted the management of insect pests to a new level and the signs in quality assessment of the initial 2020 kernels supports this.

The continuing demand for almonds as an ingredient in manufactured products was apparent during the 2019 calendar year with 297 new products produced for supermarkets in Australia. This ever-increasing demand for blanched and other almond products has driven a narrowing of prices between premium snacking grades and other types. This demand growth in manufacturing is delivering better returns to growers.

The lower Australian dollar is also assisting grower returns particularly

when export shipments are now more than 80,000 tonnes a year.

With water storages still low causing reduced allocations and high prices for temporary water, solid grower returns are needed to help offset the increased cost of producing the 2019/20 crop.

The larger than predicted 2019 US crop and their 2020 bloom and ensuing crop estimates will continue to influence the market in the months ahead. However, when all is said and done the global supply has to increase given recent plantings in the major producing countries so there is a benefit to this increase being steady rather than fluctuating on the back of good and poor crops.

World demand continues to grow strongly and despite the Coronavirus impacting heavily on fresh fruit sales, nut sales seem far less affected to date as consumers seek durable foods with noted health benefits.



ABA Board of Directors at the recent February Board Meeting. Peter Hayes, sixth from left, officially took over the role as independent Chair. Pictured L-R: Laurence Van Driel, Grant Birrell, Robert Wheatley, Brendan Sidhu, Peter Cavallaro, Peter Hayes, Neale Bennett, Damien Houlahan, Stephen Beckwith, James Callipari and Tim Jackson.



MURRAY TO MOYNE: Members to don their lycra for a good cause



MEMBERS of the Australian Almond industry will again team up to participate in the Murray to Moyne Cycle Relay to be held over the weekend of 4-5 April.

The team is raising funds for Heartbeat Sunraysia to purchase a paediatric vascular access probe. The ultrasound probe has the ability to scan veins, select the most suitable vein and reduce the number of attempts to insert a cannula in children and infants.

The charity event, starting in Mildura and finishing in Port Fairy, covers a total distance of 520km. It's main objectives are to raise funds for hospitals and health services as well as to promote the health and social benefits of riding a bike. The almond team participation promotes the heart health message of eating almonds.

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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.

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**Tim Jackson |
Australian Team Captain**

A new-look, rejuvenated Australian side regained the Almond Ashes from India in the third annual Almond Board of Australia promotional cricket match in Dubai during the recent Gulfoods Trade Show.

While the coronavirus and a softening market took the edge off the usual activity levels of Australian almond sellers during Gulfoods, the green and gold almond army avenged their humiliating loss of 2019 to win by 51 runs.

It was yet again hailed a marketing success as representatives of the Australian almond industry put aside their competitive differences to take on the Indian almond buyers XI.

It continues to be an unique promotion that few industries could replicate - two teams full of competitors coming together to foster business relationships and stronger ties as the Australian industry continues to grow in volume and stature in the global market.

Unlike last year when the Australian side was described by critics as too slow and too old, the addition of some younger bodies turned their fortunes around.

Select Harvests' veteran representative, Laurence van Driel, was widely flagged to be culled from the team following last year's loss, but redeemed himself by funding one of the recruiting coups of 2020.

His decision to bring along his teenage son Tristan – the former poster boy of ABA “live healthy, eat healthy” posters – was a masterstroke. The father-son combination kept the scoreboard ticking over in the middle order with Tristan making 24 before he claimed 3 for minus 4 wickets with the ball and fielded like a demon on the back net to effect at least a half dozen run outs during the Indian innings. It was a superb performance that helped Australia to victory and also secure his father's long-term place in the prestigious XI.

ABA CEO, Ross Skinner, was another to shine. He and NPA's ever reliable Nigel Carey put on 35 for the second pair before Skinner bamboozled the Indian batsmen with his loopy, non-

turning off-spinners to take 5/18 in two overs.

Olam's Ben Fessy was a surprise inclusion at the top of the order. He and fellow debutant Costa Christou, from Sydney's Global Foods Group, took the weakened Indian bowling attack apart with a stand of 39. Fessy hit two sixes and a four to light up the new look Australians and top score in the match with 29 in four overs.

The Australian total after three pairings was 89 before one over of destruction from usual Indian wicketkeeper Mohnisch Seth put the game back in the balance. Seth took five wickets to reduce the Aussie total to 64. The body language changed immediately as the Indian team came alive.

INC Chairman, Michael Waring, and last year's star Stefan Kaercher from Switzerland (remember him? the Swiss born, German-based Australian almond seller who is married to a Mexican born Californian beauty!) had to rebuild from a disastrous start. They were minus 25 after one over. Chairman Waring was involved in a heavy collision with an Indian fieldsman during the second over



Ashes in 2020

and there were major concerns that he had reinjured his replaced hip. He bravely batted on in true Anzac spirit and with Kaercher steadily eliminated the hefty early deficit before he retired hurt with honour. ABA's specialist opening bowler, Joseph Ebbage, came in as the substitute for his first hit in three years and middled the ball well to ensure no further damage was done to the scoreboard.

Olam's Toby Smith batted with aggression with skipper Tim Jackson for the last pairing to ensure the Aussies posted 118 and went into the field on a positive note.

The Indian batting lineup had a different look to it. Several of the young stars from the previous year were absent after withdrawing on the eve of the big game. It left the Indian team powerbrokers, Shrey Bhatia and Ashwini Taneja, to rejig their batting order.

Mumbai allrounder Sameer and his partner Ankit withstood the guile and experience of Ebbage, Skinner, Carey and van Driel senior to post a respectable 13. However, it wasn't until Seth and Dubai based Toofail Ahmed posted 23 for the third

pairing that the Indian innings came to life. They had batted beautifully but two run outs were costly. The rampaging Mohnish showed little regard for Laurence's bowling in the last over and was caught out, depriving him of the chance to be the top score of the match.

The Bhatia men, Shrey and Aman, followed Seth and kept the target within reach with some solid hitting until Andrew Waring – eight weeks after a hip replacement – was called off security detail to bowl the final over for his injured brother. He took 2/-1 and left the last pairing of Taneja and Monish jnr (Seth's son-in-law) with the massive task of making 46 from four overs.

The fielding of Fessy and van Driel junior on the back net was crucial to the victory. Fessy also bowled with so much steam that he looked like Mitchell Johnson and unsettled the Indian buyers.

Carey's coolness in the field and Costa's safe hands saved a lot of runs. Super veterans Ebbage and Skinner justified the faith of selectors although as time goes by there was strong discussion around introducing further van Driel like father-son transitions in the team.

Victorious skipper Jacko paid tribute to the Indian side for fronting up despite the selection difficulties that the coronavirus had created in the lead up to the game. Khari Baoli statesman Raju Bhatia was even called upon to bowl during the Australian innings.

At the official presentation the following week, Jackson gladly received back the almond ashes urn amidst calls by the Indian team that the Ashes series are always best of five matches.

But until 2021, the small golden urn containing the almond ashes of nonpareil inshell will be housed at the Almond Board of Australia offices in Loxton.



5 minutes with...

Peter Hayes, ABA Independent Chair

LAST month, Neale Bennett officially handed over the reins to incoming independent ABA Chair, Peter Hayes. We caught up with Peter recently to find out a bit more about his background, his ideas about the industry and what he is bringing to his new role.

You have a familiar face. What has been your involvement with the Australian almond industry previously?

I was MC for the recent Australian Almond Conferences, the 16th in Adelaide in 2014, then in Melbourne for the 17th and 18th biennial conferences in 2016 and 2018. These conferences and the associated networking gave good opportunity for me to understand the great nature of the industry and its ongoing potential. These events also demonstrated the value of a united industry, a focussed strategy and well-structured and funded R&D and marketing programs to support industry members.

More generally I have had a long involvement and several roles within the wine sector which means I have had considerable connection with Sunraysia, Adelaide, Riverland and Riverina industries and their regional organisations.

The ABA Board of Directors has selected you to take on the role of independent Chair. What previous experience do you bring to this role?

I have had the good fortune (and time, courtesy of being a 'baby boomer') to have been exposed to a range of agri-industries across both good times and bad. This has seen me employed in government-industry interface roles as an industry development leader (State Viticulturist and State-wide Industry Officer; Fruit and Vines in Victoria, late '80s) and Executive Director, Grape and Wine Research and

Development Corporation (GWRDC). My board experience with GWRDC, Cotton RDC, the CRC for Internationally Competitive Pork, Irrigation Australia Limited and Charles Sturt University Council has presented a wide range of relevant experiences, opportunities and challenges, which are transferable to this role. As Chair of the Irrigation Futures CRC, I saw the complexities of Board governance in meeting the breadth of expectations of the many stakeholders in the irrigation-dependent sector; as water is a fundamental input for the almond industry, such experience shall likely prove useful.

What are you looking forward to most in your role as Chair of the ABA?

The opportunity to work with an evidently capable Board and CEO, as demonstrated by their success to date, and to meet and engage with ABA staff, wider industry membership and their support and services networks.

The Board has the charter to deliver industry leadership, identify opportunities, set strategic objectives and account for performance against those targets. It's also obliged to mitigate a multitude of technical, environmental, social and marketing risks. We have scope to further influence national and regional policy across many themes so I see an opportunity to deploy my experience there.

The diversity of opportunities and challenges now evident, and likely to emerge over the next few years, are considerable. I look forward to assisting the Board and management in identifying priorities and a strategic framework for securing a sustainable, prosperous future for the almond industry and its associated regional communities.

You have a long and extensive history in the horticultural industry, particularly in viticulture. What is your interpretation of the almond industry and what do you see as some of its potential opportunities?

The parallels between the grape and wine industry and the almond industry are evident. However, the almond sector has considerable scope for market development, product diversification and the retention of value for the producer and processor sector, that is not so evident in the wine industry. This era of heightened health-consciousness and increased adoption of plant-based diets along with global policy and market interest in sustainable practices and sector-based footprints for carbon, water and energy provides both opportunities and risks for the sector. Maintaining and enhancing the industry's social licence, along with consolidating almond's position as a key component of a healthy diet, shall offer much scope for further action.

What are some of your interests outside of work? And most importantly, can you please disclose which football team you support?

House renovation (both a pleasure and a chore, depending on what stage of the project), wine, travel, live performance (The Adelaide Fringe offers plenty of interest), Australian Open Tennis, non-fiction/technology, photography, glass collecting, e-bikes and family. I'm a long-time Hawks follower, although not a fanatical one. The other sides, including Collingwood and its supporters need a turn occasionally!



Newly appointed independent ABA Chair, Peter Hayes, who took over the role from Neale Bennett at the recent February ABA Board of Directors meeting.

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A HEALTHY HANDFUL DAILY

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For references: www.nutsforlife.com.au

New infographics released

NUTS for Life have recently released a series of infographics to assist health professionals in demonstrating the positive impact regular nut consumption can have on their clients' health. Featuring almonds, the full range of infographics are available through the **Nuts for Life website** (Images courtesy of Nuts for Life).



Nuts for Life leader steps down

Resigning *Nuts for Life* Chair, Chris Joyce.



LONG serving leader and advocate of the *Nuts For Life* initiative, Chris Joyce, has officially stepped down from his role as Chairman after 16 years of leading the program.

Chris was a key driver in working towards growing nut consumption in Australia. Established in 2003, *Nuts For Life* inspires people to enjoy a healthy handful of nuts every day by providing education on the health benefits of regular nut consumption.

Always keeping *Nuts For Life's* eye on the prize, Chris was focussed on seeing a five percent growth rate in Australian annual nut consumption. After 16 years, *Nuts For Life* are proud to have contributed to the Australian nut industry achieving an average annual growth rate in volume of 4.6 percent and in value of 7.2 percent. Australian nut sales have grown from 32,000 tonnes (worth \$251 million) in 2003, to 66,000 tonnes (worth \$761 million) in 2019.

He has consistently emphasised two key principles for the *Nuts For Life* program: to be science-focused, and to be collaborative. Chris ensured that no claim would be made that

did not have a published reference in a respected nutrition or medical journal. This devotion to published science has provided *Nuts For Life* with its credibility across the health professions and public health bodies with whom it has engaged.

Chris chaired a Management Committee that acted as one. He understood that being genuinely collaborative was an essential element to the sustainability of a broader industry program.

Chris' list of achievements is extensive, however there are three key accomplishments achieved under his leadership.

Firstly, the early team of *Nuts For Life* contributors understood and were aware of the obstacles standing in the way of increasing nut consumption in the early 2000s after coming out of 1990s, which can be described as the 'low fat is best' era. From an Australian nut industry perspective, this view translated as 'fat is bad; nuts contain fat; therefore, nuts should be avoided'. Chris passionately led an industry-wide charge through *Nuts For Life* to confront these myths and to help change the thinking of health professionals that 'healthy fats' are essential to a nutritious diet. This was no mean feat.

Secondly, the 2013 edition of the Australian Dietary Guidelines affirmed the *Nuts For Life* recommendation that all Australians should eat 30 grams of nuts every day. These Dietary Guidelines are a very important document that all dietitians, medical students and fitness trainers encounter and are guided by. For nuts to be clearly written as a recommended daily food was a major *Nuts For Life* achievement.

Thirdly, Food Standards Australia New Zealand (FSANZ) took more than 10 years to amend the nutrition and health claim standard as part

of the Australian Food Standards Code. *Nuts For Life* was an active participant in the process, providing FSANZ with a sizeable body of scientific evidence to substantiate claims linking nut consumption with positive health outcomes. Given the 'fat-is-bad' era of the 1990s, this positive heart health claim was a very significant achievement.

The change to the Food Standards Code allowed, under strict conditions, some health claims on packs, in advertising and any promotional material. The Food Standards Code had previously prevented any statements that link a food with diseases, despite whatever science was available supporting that claim. This evidence can now be used by *Nuts For Life* contributors as the basis of their "heart healthy without weight gain" claims.

From a practical perspective, Chris understood and experienced the difficulty of maintaining a broad level of investment from the Australian nut industry underpinned by industry bodies such as the ABA as well as importers and packers.

Chris led the *Nuts for Life* team in maintaining matched funding support from Horticulture Australia Limited through to its current iteration, Hort Innovation.

Chris, a pistachio grower, leaves a rich legacy on stepping down as *Nuts for Life* Chair. He continues as a Director on the Australian Nut Industry Council Board.

Michael Waring has been appointed as the new *Nuts for Life* Chair.





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MARKETING: Domestic Market Development Program



Lou Martin | Marketing Officer

THE Australian Almonds domestic marketing program has been in full swing since the beginning of the year. We have already supported several events with many more scheduled for 2020.

New clinical study underway

Australian Almonds are supporting a clinical study that will test the efficacy of a novel dietary intervention, high in the amount and variety of plant foods, to alter the gut microbiome (improve gut health) and reduce harmful metabolites such as uraemic toxins. The aim of this test is to use a range of different plant-based foods to determine whether nutrition can mitigate chronic kidney disease (CKD) progression, improve symptom burden and quality of life for pre-dialysis kidney patients. This study at The University of Wollongong in NSW is being led by Dr Kelly Lambert, who is the Senior Lecturer and Academic Program Director for Nutrition and Dietetics and Jordan Stanford, who is an Accredited Practising Dietitian currently completing her PhD.

Nutrition Society of Australia

Our Nutrition Program also included several exhibitions over the past couple of months. Australian Almonds exhibited at the Nutrition Society of Australia from December 2-5 at the City Hall in Newcastle. The theme of this conference was *Nutrition Science: The Epicentre of Health*. The core purpose of the Nutrition Society of Australia is to communicate the scientific value and significance of nutrition science and related disciplines in Australia. There were more than 270 delegates who attended this conference with backgrounds in nutrition, policy, public health and science.



Mediterranean Workshop

Growing the body of research and evidence for the nutritional value of almonds as part of a Mediterranean diet is an important long-term strategy for the Australian Almonds Marketing Program.

On February 9, Australian Almonds sponsored a Mediterranean Diet Symposium at the International Convention Centre in Sydney. The purpose of this workshop was to provide the latest findings relating to the Mediterranean Diet and health outcomes, with a focus on implementing the pattern in Western populations. This style of eating emphasises fruits and vegetables, nuts, olive oil and wholegrains with minimally processed foods and low moderates of dairy, poultry and fish. Adopting a Mediterranean diet continues to be a huge focus for Australian Almonds, and it's great to see the emerging research.



This project has been funded by Hort Innovation using the almond research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au

MARKETING: Export Market Development Program



Joseph Ebbage | Marketing Manager

FEBRUARY 2020 has been a full month for our Australian Almonds Export Development Program. We have exhibited Australian almonds at the Japan Supermarket Show in Tokyo, the Gulfoods Trade Fair in Dubai and at the Goifex Fitness Exhibition in Jakarta.

The trading context for our Australian almonds during February has been difficult. This is because a global pricing correction has occurred due to the fundamental 'supply and demand' forces in the almond industry. The production volume of the 2019-20 Californian crop was confirmed to exceed 2.5 billion pounds in contrast to the earlier objective estimate of 2.2 billion pounds. The 2020-21 new season Californian crop is also widely forecast to be larger than 2019 as more bearing acres are harvested.

Compounding the difficulty of gaining pricing stability has been the uncertainty generated through the spread of the Coronavirus. However, demand for almonds has remained strong. This is providing an important level of buyer confidence.



Australian Almonds trade stall at the Japan Supermarket Show

Japan Supermarket Show

Our February program commenced with a seminar and trade exhibition at the Japan Supermarket Show. This trade show ran from February 12 to 14 at the Makuhari Messe in Tokyo. The feature of our Australian almond program during this exhibition was a seminar held at the Exhibition Center on the first afternoon of the trade show. More than 50 Japanese almond industry trade representatives attended the seminar. As in previous years, the Austrade Tokyo office and the Food South Australia Japan office assisted with the seminar and trade exhibition. Damien Houlahan, Olam Orchards Australia, Tim Jackson, Almondco Australia and Joseph Ebbage, Almond Board of Australia participated in the seminar which included an industry update followed by a Q&A session.



Tim Jackson and Damien Houlahan.



Australian Almonds trade stall at Gulfoods

Gulfoods

Immediately following the Japan Supermarket Show, attention turned to our Gulfoods trade program. The Gulfoods exhibition ran from February 16 to 20 in Dubai. The Gulfoods trade show is one of the most important within the Australian almonds export development calendar. It attracts a significant number of our Indian customers as well as our Middle Eastern and African customers.

The core of our Gulfoods program is a nine metre by three metre trade booth with executives from Almondco Australia, Olam Orchards Australia, Nut Producers Australia and Select Harvests participating. Our booth was a key feature of the Australian pavilion in the Fine Foods area of the trade exhibition.

To enhance our customer relationships with our Indian customers, a game of indoor cricket was held on the eve of Gulfoods. While the activity was highly enjoyable, it is worth noting the unique ability of the Australian almond industry to collaborate and play as a team and the mutual love of the game of cricket to attract our Indian customers to play as a team also (for full match write-up, see pages 6-7).

Another feature of our Gulfoods Trade Mission is our Australian Almonds Networking Event held on the third evening of the exhibition. The CEO of the Almond Board of Australia, Ross Skinner, presented an Australian Industry Update of our 2020 crop to more than 70 customers and members of the global almond trade. While attendance was a little down on the previous year due to health concerns around travelling, the event provided a valuable opportunity for our Australian almond exporters to network with their key customers.



Goifex Fitness Exhibition

The third export activity for February was the Australian Almond exhibition at the Goifex Fitness Exhibition in Jakarta, which ran from February 22-23. The purpose of our participation in this fitness exhibition was to test the efficacy of our fitness and sports nutrition message on our potential consumers. Almonds are not part of the traditional Indonesian diet and require a convincing health and nutrition message to attract new consumers. The outcome of the exhibition was very positive with exhibitions that featured our heart-shaped almond snack tins especially designed for the Indonesian market.



This project has been funded by Hort Innovation using the almond research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au



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<https://www.ruralaid.org.au/hiveaid>

OLAM, Australia's largest grower of almonds, has made a contribution of \$100,000 to the Hive Aid initiative. The Olam contribution was the first donation to the cause with 100 percent of funds raised through the Hive Aid campaign going directly to beekeepers.

Managed by Rural Aid, one of Australia's largest rural charities, and overseen by industry body, the Australian Honey Bee Industry Council (AHBIC), funds raised will be used to support professional beekeepers recover from the loss of hives and floral resources caused by the bushfires and ongoing drought. The fires have resulted in some complete hive losses, many damaged hives and most critically a loss of floral resources to help hives regain health in the coming months.

"The Australian almond industry requires in excess of 200,000 hives each year for pollination. Moreover, the industry is very much aware of how important strong hive health is for an overall successful pollination and subsequent almond crop", says Damien Houlahan, Olam's Executive General Manager.

The 2019/2020 honey season is forecast to be the lowest on record, with drought and bushfire decimating available water and flowering trees, and severe heat further impacting survival and activity of bee populations.

Professional beekeepers are encouraged to register for assistance via www.buyabale.com.au.



AUSTRALIAN Almonds held a bushfire fundraiser in Rundle Mall on January 17. Over 1000 snack tins were sold raising over \$2,000 for the Country Fire Service Foundation and the RSPCA.

We would like to acknowledge the generous support of Almondco Australia Ltd, located in Renmark South Australia, for donating both the almonds and the labour to fill the tins at very short notice.

1000 snack tins were also donated to the CFS Foundation for the volunteer firefighters. Almonds are a great recovery food after strenuous activity.



Breaking down AgChem formulations and the future of AgChem

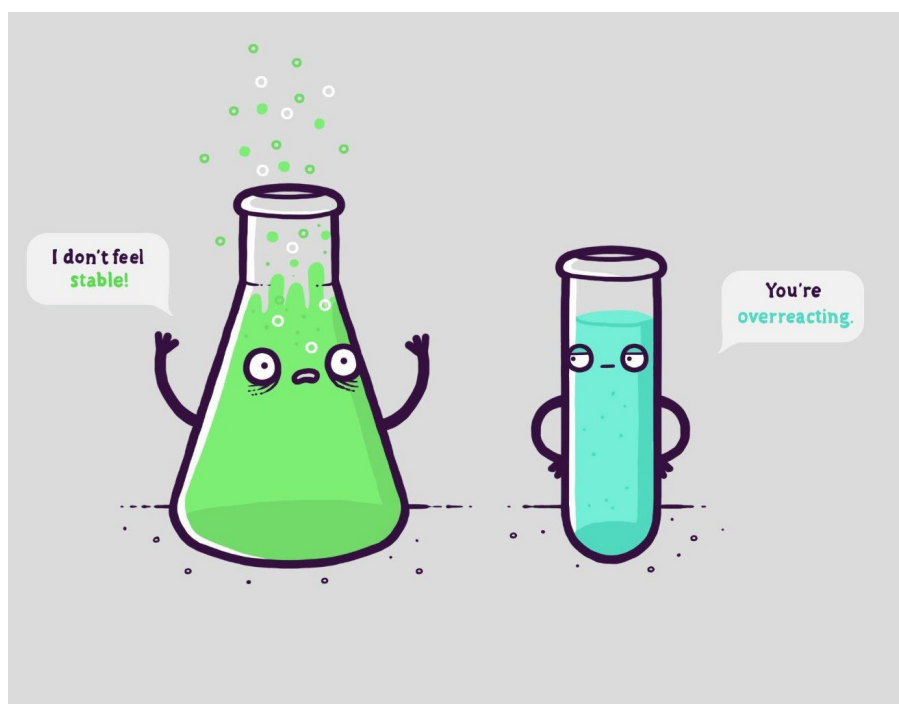


Josh Fielke |
Industry Development Officer

CHEMISTRY is one of the most important components in intensive agriculture as it helps to provide profitability by increasing the quality of product that is produced. It is understood that the AgChem products that we apply to our trees are stable, but it helps to understand the basics and differences within the products that we purchase and apply.

Active ingredients (AIs) are the basis of all pesticides and come in solids, liquids and everything in between. The goal of all Agchem companies is to transport these AIs from the factory to your trees, with the highest efficacy to reduce the incidence and impacts of pest, diseases and weeds. This means that through the transportation process the active ingredient needs to be protected. This is achieved through the formulation creation process.

Formula creation is a precise process that aims to put the AIs into a distillate so that the product is encapsulated in a practical substance for application. In doing so, the AI still needs to perform as expected. There are many different formulation types and it is important to recognise these when purchasing chemicals. Some of the most common types are listed and explained below, with others listed and described by the **APVMA**.



Most common formulation types

Suspension concentrate (SC)

Suspended concentrates are now one of the most common formulation types. It is a stable water-based product where the AI's has been finely milled and suspended in water. The finer the product the better because there are more individual particles of an AI that will disperse in your 4,000L tank and therefore spread across the leaves being sprayed. It is common that the formulation will contain a built-in adjuvant and does not require a solvent. Agitation required?

Water dispersible granule (WG)

This formulation consists of dry granules that disintegrates and disperses in water for application. WG products do not dust up and are therefore easy to measure and a lot safer for the user. When the granule is mixed with water it quickly disperses into a fine particle suspension, so it is extremely important that constant agitation is applied so the AI does not fall out of suspension and settle to the bottom of the tank.

Emulsifiable concentrate (EC)

EC's contain the AI's mixed with an organic solvent(s) and surfactants. When added to water, the product will disperse, creating an emulsion solution. Much like olive oil does in a salad dressing. Usually these products are very stable.



Inert materials to improve efficacy

When creating a formulation and the desired formulation type is chosen, inert materials are added to create a product that may increase the performance and efficacy of the AI. Certain inert materials achieve specific criterion to help stabilise and deliver the formulation type for different scenarios. Some criteria may include:

- Solvents,
- Droplet retention,
- Surfactant (spreaders and wetters),
- Anti-setting agents,
- Anti-foaming agents,
- Heat and cold stabilisers,
- Droplet control,
- Extend shelf life,
- And more

BE AWARE: From a health and safety perspective, just because an ingredient is labelled inert, doesn't mean it's not toxic.

The additions of these inert substances are where chemical companies can create a product that is optimised and can outperform other products with the same active. Inert substances play a key role in product efficacy and it is common practice for growers to add some in to do just that. However, not all growers worldwide add these in, therefore for a company to make a product as effective as possible, including inert substances in formulations is good practice in a company's decision to make the best product possible. Therefore, it is important to read the label before adding any inert material to your spray tank. If too much is added, in the case of surfactants, runoff can occur and cause product inefficiencies.

On my trip to the research triangle in North Carolina in December 2019, Syngenta demonstrated to me that even the order of adding inert substances can affect the formulations balance and performance!

When purchasing products, it is important to question the research that has gone into the production of the product ensuring that you have confidence in the efficacy and longevity of the formulation's performance. Sometimes cheap chemicals are very tempting, but these factors need to be considered. The old saying, "it's too good to be true" might come into play here.

The future of Agchem

When we look at the future of AgChem products initially you look to the commodities markets and the respective social environments. There is a lot of pressure surrounding decreasing residue levels and increasing sustainability. As a result, some of the 'old chemistry' broad-spectrum products have been removed from the approval list. This has now forced AgChem businesses to rethink their product development and develop formulations directed at individual target pests to reduce the impact on non-target species, hereby increasing sustainability or by developing biological products that provide the environment with the tools to manage pests.

By doing so, the direct effect is a challenge to avoid resistivity and it is highly important for growers to adhere to best practice. It is well known that a single mode of action applied repeatedly has a greater chance of resistance being developed by the target pest. This then has a negative effect on both the grower and the chemical company as that chemistry becomes ineffective. Therefore, it makes sense

that the trend of new chemistry is to utilise multiple active ingredients in a single product to increase product longevity. The creation of this is a complex balancing act as their AI's could potentially interact and become compromised. Hence, why it is common to only spray with a single AI in the tank. However, by adding inert materials into the formulation it becomes feasible and easy to spray two or more AIs together.

Finally, when purchasing a product, the engineering and testing in the packaging is significant and is an important consideration made by AgChem companies. There is a possibility with some products that the chemical can eat away at the plastic, or components of the packaging can interact and compromise the product's efficacy. Likewise, the components need to meet Occupational Health and Safety standards so that the user is safe in the handling and use of the product.

Useful Resources

- **Spreader and wetter (Video)** - <https://youtu.be/OixEinH1ObA>
- **With Surfactant** - <https://youtu.be/w9bXMInpwLE> without <https://youtu.be/uuwmYltg-KY>
- **Report on Adjuvants from GRDC:** https://grdc.com.au/__data/assets/pdf_file/0030/384519/10562-GRDC-Adjuvants-guide-LQ.pdf?utm_source=website&utm_medium=download_button&utm_campaign=pdf_download&utm_term=National&utm_content=Adjuvants%20Booklet
- **Stability testing of AgChem products** - <https://apvma.gov.au/node/1042>



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Introducing the new irrigation assessment resource!



Josh Fielke |
Industry Development Officer

In a previous edition of *In A Nutshell* we discussed a new project 'AL17004 Almond Irrigation Best Practice Management' that was being conducted by the South Australian Research and Development Institute (SARDI). This project has now reached completion and, as promised, 50 test site evaluations were conducted, and an industry benchmark of irrigation efficiency was established. Growers soon will be able to compare themselves to this benchmark through an online portal.

As water is an incredible resource it is important that our systems are running both efficiently and to specification. Higher irrigation efficiency also promotes consistency across your orchards and helps in fertigation applications to achieve expected results.

The website will provide information on how to go about using and maintaining a drip irrigation system. When available, to enter the site a direct link will be available from our industry homepage at <https://industry.australianalmonds.com.au>.



Project Summary and Results



Drip Irrigation Evaluation Tool



Information and Resources

The tool consists of three sections and are as follows:

1) Project summary and results

This section provides a description and evaluation of the components tested during the 50 irrigation system audits in almond orchards from the Adelaide Plains through to the Riverina. These components are:

- variation in pressure
- variation in flow
- flow variation from design
- coefficient of uniformity
- lateral flow variation from design

Also provided in this section is a link to advice regarding Irrigation Best Practice Management. This section discusses the elements that were shown to affect the performance of drip irrigation systems, including the effect of age, flushing frequency, chemical dosage and more. This is something that every grower using a drip system should read and a direct link will be provided in future.

2) Drip Irrigation Evaluation Tool

This tool enables you to conduct your own evaluation against the benchmark performance of the 50 industry test sites. This is the heart of the website, with links to the project summary, instructions, checking your

performance, reviewing your results and more information.

The instructions page provides information on what and how to do the testing in your orchard. Be sure to download your field worksheet on this page. More information can also be gained by selecting the 'information' button on the 'drip irrigation evaluation tool' homepage.

On the drip irrigation evaluation tool homepage the 'check your performance' button takes you to the page where you enter the data that you have collected. Once filled out, enter your email address and your report will be generated via a code and can be retrieved through the 'review your results' button.

3) Information and Resources

This section takes you to a number of fact sheets, handbooks, videos and other resource links where you can view more information about using drip irrigation. The information provided here is comprehensive making this a one-stop-shop for all the information you need. Be sure to watch out for an updated video on the ABA website, explaining the process in more detail!

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New harvesting technology on display

ABA Industry Development staff were recently invited to view a demonstration of the Tenias harvester at CMV Farms in Loxton.

The Tenias harvester is a self-propelled machine requiring a single operator. The shaking and gathering of almonds occurs continuously without the machine having to stop, resulting in a rapid and effective harvest. It can shake up to seven trees per minute with the shaking head cab able to vary the duration of shake time per tree and the strength/vigour of shake. Fuel consumption is around 12-15L per hour with a fuel tank size of 160L. The built-in stick flicker removes sticks from the catcher.

There are currently five machines in Australia. Whilst currently being

used in pistachios, the possibility of expanding in to Australian almonds is being explored. There are currently 50 machines worldwide in use in Spain and California.

The cost is approximately €300,000 (\$AUD 0.5 million) with a seven month build time.

Whilst impressive and with exciting potential, there are still a few issues to address including windfalls and the number of nuts still left under the trunks.

ABA Industry Development staff have put together the video below of the harvester in action.





GROWING MATTERS

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- Harnessing the power of good fats in horticultural produce

Listen at www.horticulture.com.au/podcasts or on one of the platforms below.





Looking to alternative pollinators to support apiarists and industry

As the bushfire crisis across Australia continues, so too does the threat to wildlife including bees which are crucial for successful pollination.

Early assessment has indicated that more than 10,000 honey bee hives have been destroyed across the Australian mainland and around 800 hives and 115 nucleus hives of the unique Ligurian subspecies of honey bee on Kangaroo Island.

The island is renowned for its floral diversity and distinctive tasting honey, being home to the only population of Ligurian bees in the world free of major diseases and biosecurity threats.

Hort Innovation Research and Development Manager for Pollination, Ashley Zamek, said the RDC was working with several research institutions across the country to assess the viability of alternative or complementary insect pollinators to ease the pressure on honey bees and their keepers.

“This research is now more important than ever considering the loss of such a significant number of hives during this catastrophic bushfire season,” she said.

Ms. Zamek said promising preliminary findings had already been made in areas of alternative pollination where native stingless bees were successfully introduced into protected cropping environments.

She said researchers are also working to diversify landscapes to promote other supporting native insects such as wasps, beetles, birds and the like.

“And in a national first research project, we have partnered with the Department of Primary Industry and Regional Development in Western Australia to trial the use of flies for pollination,” she said.

Professor James Cook from Western Sydney University, who leads several pollination focused projects for Hort Innovation, said these projects are looking to understand what the natural pollinators are doing and how that can be strengthened to better support industry.

“Moving forward we’ll see an increasing recognition of the role of wild pollinators and pollinators other than honeybees,” he said.

“What our studies are showing at the moment is that insects such as native bees, wasps, flies and more are already playing quite a big role in pollination, but now we’re starting to get reliable data that demonstrates just what kind of contribution they are making.”

“If you put together all the pollination work we’re doing around the country, what we’re looking to do is to be able to provide information for resilient pollination services that don’t rely too much on any one situation or one species – leading to a better understanding of all the different options and how we can manage the landscape or the protected cropping environment so that we can harness these natural pollinators and get good pollination for crop production.”



Hort Innovation

We’re here to help

To help growers and others in bushfire-affected areas access information and assistance during what continues to be a difficult time, key links and resources have been brought together at www.horticulture.com.au/bushfires. The page includes:

- practical bushfire recovery resources and guides for farms, and for specific crops
- links to support services, including on-farm assistance
- where to go to access financial, legal and other support.

Release of a high tech map that shows fire impacts

Driven by a Hort Innovation investment, an interactive map has been released that shows the location of tree crops (including avocado, mango, olive, banana, macadamia and citrus) overlaid with a map of burnt areas. The tool allows easy assessment of potential damage to crops and can be used by industry to calculate losses and in planning how to respond.

This response map is just a snapshot of work being delivered as part of a broader national treecrop mapping project supported by Hort Innovation through funds from the Australian Government's Rural R&D for Profit Program.



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MARCH

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				

March

18 Pollination Committee Meeting, Loxton

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

4-5 Murray to Moyne Relay Ride, Mildura

30 ABA Plant Improvement Committee Meeting, Loxton
ABA Almond Centre of Excellence Committee Meeting, Loxton

MAY

SUN	MON	TUES	WED	THU	FRI	SAT
31					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

May

5 ABA Production Meeting, Loxton

6 ABA Board Meeting, Adelaide
ABA Market Development Meeting, Adelaide

13-15 Sial China, Shanghai

26-30 Thaifex- Anuga, Bangkok

28-30 International Nut Congress, Dubai UAE

QUINOA SALAD WITH POMEGRANATE SEEDS & ALMONDS



INGREDIENTS

- 4 cups cooked quinoa (about 1 1/3 - 1 1/2 cups dry. (Make sure to rinse quinoa well before cooking to remove bitterness.)
- 1 cup pomegranate seeds
- 4 chopped scallions
- 1 cup chopped Italian parsley
- 1/2 cup toasted sliced almonds
- 1/2 orange- zest and juice
- 1/3 cup olive oil
- 1/2 teaspoon salt, more to taste
- 1/4 teaspoon cracked pepper
- 1/4 teaspoon cinnamon
- 1/4 teaspoon allspice
- 1-2 chopped avocados (optional)

METHOD

1. Place cooked quinoa, pomegranate seeds, scallions, parsley and almonds in a medium bowl.
2. Toss with olive oil, orange juice and zest, salt and spices.
3. Taste and adjust salt. Gently fold in the avocado right before serving (or serve the avocado on the side, if wanting to keep leftovers).

Recipe and image source:

Feasting at Home <https://www.feastingathome.com/holiday-crunch-salad/>

