

MANGO MATTERS

JANUARY 2019 / VOLUME THIRTY-FOUR

Mess-tival celebrates its 7th birthday!

PAGE 16



SUMMER
ISSUE



Lady Jane
MANGOES

- > Brilliant red blush
- > Rich sweet flavour
- > Small seed
- > Harvests earlier than KP
- > Excellent shelf life that is longer than KP
- > Robust and handles transport better

We have developed two new mango varieties (RA17 and R10-8) with superior flavour and appearance. Their robust quality can withstand all aspects of the supply chain giving a significantly better shelf life. Both varieties will be marketed under the Lady Jane brand and will be available in semi-commercial quantities this October.

These varieties were developed in partnership with an expert mango breeder in the Northern Territory, a cross of Irwin (female) and R2E2 (male). We hold the plant breeders rights globally and are looking for mango growers to participate in the planting program. If you are interested in planting these varieties or would like more information, please contact Richard Byllaardt: richard.byllaardt@nutrano.com.au or phone 0418 807 636.

Nutrano Produce Group Ltd

www.nutrano.com.au



nutranō

Grow Better



Pre-season Roadshow success!

A record number of roadshows with record attendance at every one - representing a united and engaged mango industry!

MORE ON PAGE 12

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WANT TO CONTRIBUTE?

If you would like to submit pictures and story ideas to AMIA, or provide feedback, please contact the AMIA team via the details listed on this page.

CEO'S REPORT



Robert Gray
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“As we pass the half-way point of the 2018/19 season we are on track to meet our forecasted production levels and have already provided millions of customers with a King of the fruits, quintessential, Summer eating experience.”

- Robert Gray

In the Spring edition I focused on the mango industry culture of “engagement” and how with good strategy this is a key enabler for us to achieve collectively, what is difficult to achieve individually.

Whenever we have the opportunity to communicate with you; our stakeholders, at roadshows, conferences and the like, we try to align the activities we are collectively working on with the current strategic plan as a way of providing a logical update. Over the next year we will be adding some additional detail to our plan, specifically in the areas of Best Practise Management and Biosecurity. These two key areas form part of our existing Strategic Plan and it is important that we provide a clear road map to what we are going to focus on in the next few years as we work towards achieving the desired outcomes of the overall plan.

The Best Practice Management will identify the key areas of focus where we

can see significant improvements in the delivery of quality product to our market; areas such as temperature management across the supply chain through to the shelf, canopy management in the orchard and pre and post-harvest pest and disease management will be among those areas considered to focus on. Once identified, a suite of best practice resources will be developed and shared across industry with specific plans to aid adoption.

The development of our Biosecurity plan will be another important addition which will be developed in 2019. As we have seen across the horticulture sector, incursions of unwanted pests and diseases such as citrus canker and panama disease in bananas, prevention is our best option. Furthermore, a comprehensive biosecurity plan will be essential to the effective management of actions and outcomes in the event of any incursion.

As we pass the half-way point of the 2018/19 season we are on track to meet our forecasted production levels and have already provided millions of customers with a King of the fruits, quintessential, Summer eating experience. I thank those that have contributed to our season so far and wish those in the throws of harvest and those yet to commence, a successful season also.

With the registrations now open for our upcoming Australian Mango Conference, to be held in Darwin in May, I encourage you to register now and ask your fellow industry participants to join you. We will come together to **celebrate** our achievements, **collaborate** with stakeholders across our industry and **create** a plan to support our industry, well into the future.

See you all in Darwin in May!

**12TH BIENNIAL
AUSTRALIAN
MANGOES
CONFERENCE**

**CELEBRATE
COLLABORATE
CREATE**

**14-17
MAY 2019
DARWIN**

CHAIRMAN'S REPORT



Ben Martin
Chairman, AMIA

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The 2018 mango season commenced with high expectations. We have, however faced some unexpected challenges in the form of price fluctuations and extreme weather events and these have combined to have a significant impact on the 2018 farm profitability to-date.

Mango quality and maturity has been very mixed this year although I acknowledge the improvement on fruit maturity levels over past years. Further education work is needed, not only with growers but with all participants within the marketing chain to understand the benefits of embracing the industry standards.

To strengthen and improve the resilience of our industry into the future, a comprehensive review by the Australian Mangoes board will be conducted at the conclusion of the 2018/19 season. We will collate data from all regions and provide recommendations for future actions.

Opportunities to improve harvest efficiencies were recently demonstrated in Mareeba with the Central Queensland University harvest automation trials, in conjunction with the small trees trial plot. This exciting project is set to show significant benefits to the industry over the long term.

December saw the annual Mango Messtival held at Bondi Beach in conjunction with the annual Australian Mangoes grower tour. The events were well attended by growers from across the regions and I would like to acknowledge the support shown for this event.

Another exciting opportunity for growers to come together and Celebrate, Collaborate and Create will be at the Australian Mangoes 12th Biennial conference to be held in Darwin in May 2019. I recommend that you attend this important event on

“December saw the annual Mango Messtival held at Bondi Beach in conjunction with the annual Australian Mangoes grower tour. The events were well attended by growers from across the regions and I would like to acknowledge the support shown for this event.”

- Ben Martin

the mango industry calendar. Conference agendas will be forwarded in early 2019.

As we farewell 2018, I take this opportunity to extend my best wishes to the entire Australian Mangoes staff and members for a happy and safe festive season and prosperous new year.

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DIRECTOR REPORTS

FAR NORTH QUEENSLAND & NORTH QUEENSLAND



Raymond Courtice
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North Queensland fruit is finally on the market. Consistent days of temperatures over 40 degrees resulted in Dimbulah, Mutchilba and Mareeba's fruit Dry Matter and maturity levels primed for the Christmas period. With very patchy storm cells floating around, humidity levels have been high bringing the fruit size profile up.

The heat wave, resulting in ripe fruit from our region earlier than expected, coincided with high volumes from the Burdekin/ Bowen region putting a lot of pressure on the domestic market, making the export division strong at this time of the year.

Multiple varieties have been exported via VHT/Radiation treatment to China, Korea, Japan and USA. There are however, concerns starting to arise with airspace into Asia becoming tight. It would be great to see the mango industry move forward into R&D work on mango exports via sea freight.

With the bulk of our fruit hitting the market over this period, the forecast remains on track for the North Queensland region. A continuous flow of quality clean fruit is flowing into the domestic market.

Our IDO, Marine has been doing the rounds, getting very consistent and high Dry Matter readings which is a positive outlook for the North Queensland eating quality over the Christmas period and into the new year.

As we leave 2018 behind and move into 2019, I'd like to wish everyone a safe and merry festive season and a Happy New Year.

Finally, I ask everyone to register now for the Darwin 2019 Mango Conference, it's going to be super!



David Morcombe
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Growers attended pre-season roadshows in Carnarvon and the South-West in early December. Dr Ian Bally was guest speaker at the Southwest roadshow speaking about his current research into breeding and small tree high productivity. Thanks to Carolina Brander for securing funding for his visit. The workshop also included a presentation by Neil Lantzke of the results from a post harvest quality project, conducted last season.

The regional updates are:

SOUTH WEST: Cooler conditions continued through November. This contributed to variable flowering and fruit-set across the region. Some growers have reasonable fruit set and others very patchy, with some trees pushing out late flowers. It is a bit early to tell but it appears we will be in for a later harvest this season.

CARNARVON: Like the southwest, Carnarvon has had cooler conditions which has caused variability in flowering and fruit-set. It has also been very windy in Carnarvon which has impeded spraying in some cases. Our region enjoyed the inaugural Carnarvon pre-season roadshow in early December as well as a visit by the WA Minister for Agriculture(etc) regarding the Mediterranean fruit fly eradication pilot project.

I wish all growers in our region a successful season for the start of 2019.



John Nucifora
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The 2018/19 season has commenced with some challenges for our region. The recent heat wave resulted in some down-graded fruit in certain areas; the main problem being sunburn damage.

Volumes, as predicted in the forecast, have now hit the market and this peak has put some pressure on price.

While we have had a bit of a hard start to the season in this region, I'm hoping that it will finish with a satisfactory bang! I hope all growers have a successful season also.

Our IDO, Marine is doing a magnificent job in her first season in the role. She has been on-site regularly; visiting nearly all the growers in the region. I've been getting great feedback on her professionalism and would like to say well done and thank-you to Marine for all the work you have done so far.

As we enter 2019, I urge all growers to try and attend the mango conference in May. There is much to gain in attending our industry's showcase event and I myself particularly enjoy the opportunity to meet and greet with all sectors of our industry.

Continued page 7



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- John Nucifora

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NORTHERN WESTERN AUSTRALIA & NORTHERN TERRITORY



Gavin Scurr
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Most growers in Katherine have had a challenging season due to lower than expected Kensington Pride volumes and plenty of heat. Other varieties, however have cropped similar to last year. We also had rain during harvest which never improves fruit quality and makes harvest even more challenging. The pack-out, on what crop was there, was regular which was a nice surprise after some very hot weather just prior to harvest. Unfortunately, North Queensland growers have also experienced similar weather, so we hope the impacts are limited and they enjoy a productive end to their season.

We have been employing staff from Vanuatu under the Seasonal Workers Program for a couple of years now, but this season was the first season that all of our harvesting crew came from Vanuatu. We have had great results in the previous few seasons, giving us the confidence to rely solely on workers from Vanuatu this year. They are great people who are always happy and willing to do the best they can. The added benefit is they can come back again next year so you don't have to re-train each season. If you are interested in learning more about our experience with the program, please give me a call.

To those growers who have completed their harvest I hope you are having a well-earned break and for those still harvesting I hope the season goes well for you. I trust everyone had a merry Christmas and I wish you all a prosperous 2019.



Han Shiong Siah
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Most of the Darwin and Katherine region has finish their harvest for 2018. We had a number of issue's this year, especially in the Darwin region. The on-set of hotter weather in September caused a lot of fruit to ripen quicker than normal and this was not adequately reflected in forecasting. There was a sudden rush of NT mangoes into southern states which was unplanned or unpredicted and as a result, prices did not fare too well during the middle of September. A number of farms did not harvest their mangoes this year. I am

unsure as to the exact reason for this however believe it could be due to the price and/or lack of man power to harvest them? The majority of farms in the Darwin region did harvest and most in the region were finished by early October as prices began to improve. The price increase was just in time for the Katherine harvest that followed soon after.

The majority of growers are now in late stages of machine pruning their trees, if not already completed and are having a well earn break. Sit back and watch the evening storms roll in from the east as you begin planning for your next season now.

As my mango season finished a month earlier than usual, I had the time to take part in this year's Messtival and grower tour in Sydney in December. We toured Sydney Markets and major retail chain distribution centres (DC's). The Mango Messtival experience was excellent with growers being able to explain the different types of mango varieties and give consumers a story behind each mango. The DC tours were impressive! Seeing how each major retailer places such importance on quality was really pleasing. One DC would have product arrive at 9am that would then be dispatched by 3pm to its Retail stores that day!

In other news, Northern Territory (NT) Farmers had their AGM in late November, we saw four new faces join the board which included Australian Mangoes fellow director, Gavin Surr. I would like to congratulate Gavin on his election. I am looking forward to working with Gavin and the other new (and existing) NT farmers board of directors into the future.

In closing I would like to wish everybody a Happy Christmas and Happy New Year. For those still harvesting, I wish you all the best for the remainder of your season.

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DIRECTOR REPORTS

(cont'd)

“Our region has seen the devastating impact of weather this year with fires ravaging large areas. Our thoughts go out to those who have been affected by the recent fires, we wish you a speedy recovery from what has been a terrible time.”

- Karl Gygar



NORTHERN WESTERN AUSTRALIA & NORTHERN TERRITORY



Geoff Warnock
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KUNUNURRA: This year we experienced a longer than usual season, starting the first week in October and drawing to a close in early December with a trickle of late varieties. Most fruit presented well in the markets although there was some produce that had disease issues.

Crop volume was down on early estimates; in part due to a massive magpie geese and fruit bat invasion that occurred but despite prices starting lower than previous years, once established, we maintained a good, strong price throughout for quality grade fruit.

In December, growers met to discuss the outcomes of the season and possible funding opportunities to assist in trials of new techniques for growing trees and establishing new varieties. We are looking forward to seeing the results of the trials and how these new technologies can increase productivity.

Most trees in the region are now looking good and showing signs of flushing as a result of some early rains.

SOUTHERN QUEENSLAND & NEW SOUTH WALES



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I write this as harvest is just about to begin in the region for another season. The recent heat wave has brought fruit on more quickly than expected and many growers will begin harvest before the Christmas period.

Our region has seen the devastating impact of weather this year with fires ravaging large areas. Our thoughts go out to those who have been affected by the recent fires, we wish you a speedy recovery from what has been a terrible time. The hot windy weather has also impacted fruit with sunburn and late fruit drop is an ongoing issue.

The recent road shows in the region allowed growers to gain an insight into the planning and preparation the industry has put in place for the upcoming season, whilst also showcasing some exciting research. The team from Central Queensland University attended the road show hosted by the Groves family and explained some of the advancements being made in fruit imaging technology. This technology is a game changer for fruit forecasting and harvest planning.

It can also be harnessed to provide yield mapping which would allow for better orchard management.

If you did not attend the road shows this year – I would strongly encourage you to do so next year. Some of the information provided will also be showcased at next year's conference.

The conference will be held in Darwin during May 2019. I strongly encourage all growers to register for this excellent event. If you have never been before or you have been to them all – there is something for everyone as well as the great opportunity to look at the practices and techniques of other growers.

I would also like to remind growers of the importance of staying on top of employment laws and requirements. A recent Inquiry into “The Harvest Trail” conducted by the Fairwork Ombudsman recovered well over \$1million in unpaid wages for workers.

The Ombudsman found that many growers simply did not understand the work place laws and obligations. I would therefore encourage all growers to visit the Fairwork website and familiarise themselves with work place requirements. Our industry is strongly supported by backpacker labour and it is in all of our interests to ensure casual staff are treated well – and recommend to their friends to work in our great industry.

If you are all finished or just getting started on your season – I hope you have a fantastic time over the coming holiday period.

AMIA AND INDUSTRY NEWS



Australian Mangoes 12th Biennial Conference – Register now!

Celebrate, collaborate and create at the Australian Mangoes 12th biennial conference to be held from the 14-17 May 2019.

We look forward to welcoming you to Darwin, Northern Territory, where we will showcase the Australian Mango industry; celebrating our stakeholders and their contributions to our ongoing success. Take this opportunity to collaborate with service providers, researchers, suppliers, wholesalers and more while at the same time, creating a vision for the future.

The one and a half days of conference sessions will be held at an iconic Darwin waterfront venue with the remaining day and a half showcasing three local mango farms.

Don't miss your chance to be part of, what has become, an unmissable event!

Early bird registrations are now open. Visit industry.mangoes.net.au/events to find out more.

EARLY BIRD SPECIAL

When you purchase your ticket/(s) during the early bird period (1 November 2018 - 31 January 2019) you will go into the draw to win one of three conference accommodation packages for two adults (four night's accommodation at the Mantra Pandanas Darwin). Prizes will be drawn 7 February 2019.

TICKET PRICES

AMIA Members \$695 for the first person and \$595 for every person thereafter

Non-members \$895 for the first person and \$795 for every person thereafter

Delegates who purchase their conference tickets during the early bird period will have the option to pay half now and half by 1/03/2019.

Tickets purchased after 31/01/19 must be paid for in full at the time of booking.

Growers on tour

As Australians celebrated the first weekend in summer and began the 'sleigh ride' into Christmas, mango growers representing all varieties and growing regions from across the country left their farms to take to Sydney streets and experience all the energy and excitement of a mango season at its peak!



This was the fifth year Australian Mangoes has conducted the annual Grower Market Tour and attendance and supply chain participation was exceptional. The tour gave growers the opportunity to experience the entire supply chain, giving them a real understanding of what it takes to create strong sales velocity and momentum for mangoes. The three-day event enabled growers to see things they had never seen before, hear things they had never heard, go behind doors they would never get to walk through and to share in conversations they would never otherwise have.

Growers who boarded the bus included Andrew Hightet from Tou's Garden, Darwin; Jessie and Corey Jenkins from Jenko's Mangoes, Darwin; Han Siah from Tropical Primary Products, Darwin; Luciano Raco from King Producers, Katherine; Andrew and Sally Dalglish and their five children, Tilly, Charlie, Izzy; Jock and Ruby from The Foxhole, Katherine; Janet and Lionel Williams from Euri Gold, Bowen; Laurie and Nadine Land, Land Family Farms, Gumloo; Peta Connolly and Dwayne Cannon from Gator Mangoes, Townsville; and Jill Wilson and John Reymond from JJ's Farm Mangoes, Gin Gin.

The tour began on Saturday with visits to a wide range of stores across all retail markets including Aldi, Coles, Independent Green Grocers; Harris Farm Markets; Metcash / IGA and Woolworths. While the number and size of the mango displays varied from retailer to retailer one thing was indisputable—mangoes were the king of fruits – commanding front centre stage in every shop. The day was made extra special when David Harris, Carlo Cerevolò and the team at Drummoyne Harris Farm Markets store, surprised growers with an 8 course Mango Degustation lunch while sharing insights about their business model and the importance of mangoes to their operation.

Sunday was a day of sunshine and great excitement as growers enthusiastically boarded the bus and headed for Bondi Beach. The annual Mango Mess-tival is our industry's signature event and something our growers were very keen to experience. Meeting and greeting consumers, they shared their stories, their knowledge and



Group shot at Harbord Growers Market.



Sydney Markets Objective Reporting.



Woolworths DC visit.



ALDI DC visit.

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their passion, gave tips and advice, handed out samples, and smiled for the paparazzi. The day ended with separate sessions hosted by Coles and IGA/Metcash. The respective Business Managers provided insights into their business models, shared their mango marketing plans, an overview of the category performance to date and a 'heads up' on activities planned for the second half of summer.

Monday was our final day and as the sun came up we boarded the bus to tour the Sydney markets. This was an opportunity for growers to gauge the pulse of the market, to meet and speak with wholesalers, to observe the 'objective reporting' process, and to add to their market intelligence. The remainder of the day was spent in bespoke, behind-the-scene sessions hosted by the Business Managers of Woolworths, Aldi and Costco. Each of the retailers provided growers with an overview of their business models; an understanding of their mango marketing plans; as well as a tour of their distribution centres and in Costco's case a tour of the store.

As the weekend drew to a close our growers left Sydney engaged, excited, and exhausted. On behalf of Australian Mangoes we extend sincere thanks and appreciation to all the growers, retailers and wholesalers who participated in making our 2018 Grower Tour a wonderful experience and an unforgettable mango memory. The 2019 dates have been set and planning is already underway. We'd love you to join us so please put Friday November 29th to Monday December 2nd in your diary now.

For more information contact Treena Welch at AMIA: marketing@mangoes.net.au, or 0417 001 253.



Harris Farm Markets Mango display (Bondi Westfield).



IGA Tarrin Point.



Mess-tival - Jessie and Corey Jenkins, Jenko's Mangoes, Darwin.

Pre-season Grower Roadshows a resounding success

This season Australian Mangoes has convened a record number of roadshows achieving record attendance at every one, a strong indicator that we have an industry that is engaged and excited about its future.

Between August and December a total of ten pre-season roadshows were held in growing regions across the country including Kununurra, Katherine, and Darwin in the Northern Territory; Bowen, Ayr, and Mareeba in Far North Queensland; Rockhampton and Bundaberg in South East Queensland and Carnarvon and Gin Gin in Western Australia. For Kununurra and Carnarvon these were inaugural roadshows and were greeted with extraordinary participation.

At all events there was a depth and breadth of industry attendance including; growers, retailers, wholesalers, exporters, service providers and regional government departments with a central theme of celebrating our collective journey over the past four years while collaborating to create

a sustainable, profitable future that shines big and bright.

Each roadshow began with a workshop connecting growers to the industry strategy and marketing plan, R&D initiatives and project updates as well as topical presentations from a wide range of industry stakeholders and finished with a social event providing a great opportunity for connecting and networking in a casual, and celebratory manner.

What was noticeable at all events was the cultural shift the mango industry has made in the last 4 years. We have definitely moved from an industry of relatively fragmented individual businesses moving to their own beat, with little visibility of the bigger picture, to an industry that is connected, collaborative and committed to

delivering an excellent mango experience.

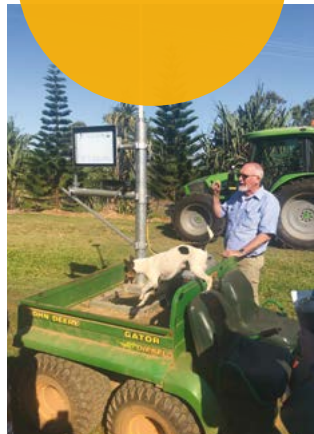
We are pleased to see that so many growers and other stakeholders, value the investment of their time to attend industry events. We rely on the feedback we receive from all attendees to make each meeting better than the last and look forward to another successful year of engagement in 2019.

As we round out the season for roadshows we begin to look forward to the coming year and further opportunities for engagement and information sharing. There will be no better place to come together than the Australian Mangoes 12th Bienial conference and we hope to see as many stakeholders as possible at what is sure to be the best conference yet!

Continued page 13



SEQ
Roadshows





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WA
Roadshows



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Australian Mangoes update on current ACIAR projects

OPPORTUNITIES TO IMPROVE MANGO PROCESSING FOR SELECTED MARKETS

Australian Mangoes is proud to be involved in the ACIAR project, Evaluation of agribusiness research and development opportunities for tropical fruit processing in the Asia-Pacific region which is led by Professor Robin Roberts from the Griffith Asia Institute, Griffith University.

The aim of this project is to identify opportunities and strategies to improve mango processing for selected markets through a better understanding of knowledge and stakeholder gaps.

Fruit processing has a number of important roles, from meeting consumer demand for a wide variety of innovative products, to creating added economic value in fresh fruit markets and reducing waste. Mango is a particularly good candidate for processing since its characteristic flavour notes withstand the essential steps taken during preservation.

As part of the ACIAR project, Australian Mangoes was invited to participate in a 2-day workshop in Denpasar along with key sector informants from the Asia-Pacific region (Vietnam, Philippines, Pakistan, China and Indonesia). Current processing technologies, manufacturing trends and consumer demands were among the topics discussed. Participants were also asked to contribute to identify the main challenges affecting mango processing development as well as the opportunities for the processing sector. This workshop was organised by Griffith University and facilitated by Professor Richard Beyer. Its findings will inform future research priorities.

A second workshop will be held in Australia 20th Feb-21st Feb 2019 (location to be confirmed) and will bring together key Australian stakeholders from the processing sector to discuss and identify the challenges and opportunities to develop the mango processing industry in Australia.

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Stakeholders from the tropical fruit processing sector in the Asia-Pacific region met in Denpasar to identify opportunities to improve mango processing.



Pickled mangoes with chili salt.



Chinese dried mangoes.



Workshop attendees sampling different mango varieties and products.



OPPORTUNITIES TO IMPROVE BIOSECURITY, MARKET ACCESS AND TRADE FOR SELECTED MARKETS

Australian Mangoes is currently participating in a small research activity (SRA) funded by the Australian Centre for International Agricultural Research (ACIAR).

The SRA is focused on opportunities and strategies to improve biosecurity, market access and trade for selected mango markets. This agribusiness program led by Griffith University has significant contribution and country-level coordination from each of the six ACIAR partner countries, Cambodia, Indonesia, Pakistan, the Philippines, Vietnam, and Fiji. This project includes support from leading mango technical institutes in Australia, such as the Northern Territory Department of Primary Industries (NTDPI) and the Queensland Government Department of Agriculture and Fisheries (QDAF).

China represents an important export and potential export market for all of the ACIAR partner countries with its emerging middle class and relatively low consumption base.

Australian Mangoes component of the SRA is to capture the current difficulties and challenges Australian exporters face when exporting to the Asian countries, namely China. This activity has included meeting with key Chinese importers and a range of supermarkets throughout China to gain a better understanding of what the issues and challenges importers and retailers face with imported mangoes to China. Understanding how to tell when it's ripe and ready to eat was a key barrier to purchase. We asked the case study groups what they think of mangoes, in particular Australian mangoes. Across the board

mangoes are seen as a premium produce line and Australian mangoes are seen as the premium of the world's mangoes. It was emphasised at a number of retailer operations that Peruvian mangoes had improved their quality of offer to the Chinese market – definitely a competitor closing the gap. Australian mangoes are highly sort and usually given as an 'individual boxed gift' at Chinese New Year and can sell for as much as \$20 AUD per mango. Different biosecurity requirements for domestic and foreign markets make it increasingly complex for growers to service multiple markets.

Australian Mangoes have been working and will continue to engage with Australian exporters to capture the challenges as we progress throughout this season.

ACIAR PROJECT ENQUIRIES:

AMIA
Samantha Frolov
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Griffith University
Prof. Robin E Roberts
robin.roberts@griffith.edu.au



“Across the board mangoes are seen as a premium produce line and Australian mangoes are seen as the premium of the world’s mangoes.”

The advertisement for Kraaz Nursery features a yellow background. On the left is the logo, which consists of three stylized green trees above the text 'Kraaz Nursery' and 'Grafted Mango Tree Specialistts'. To the right of the logo are three circular inset photos showing different stages of mango trees in a nursery: a young sapling, a row of trees in a greenhouse, and a larger, more developed tree in a pot.

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MARKETING

Mango Mania hits Bondi as Mess-tival celebrates its 7th birthday!

On December 2nd 2018, the first weekend of summer was celebrated with sticky hands and mango-covered smiles as Australians from across the nation arrived to Bondi beach to celebrate this king of fruit at the annual Mango Mess-tival.

Held in partnership with North Bondi Surf Life Saving Club, the iconic annual event (now in its seventh year) saw thousands of people come together to mark the peak of mango season.

To encourage Australian's to join in on the fun, we saw 30 pieces of pre-event coverage, from publications such as news.com.au, lifestyle.com.au and Body + Soul. Moreover, Bondi Radio promoted the event over the waves to the local area, driving even more footfall down to the event.

This year, Mess-tival debuted a marriage of two Australian icons, with the official launch of the Australian Mangoes' limited edition Budgy Smugglers - with attendees modelling the very special edition togs at the event! Before Mess-tival, the togs were modelled on Bondi Beach by five of the Bondi Rescue Lifeguards who have a combined social following of over 100k. This was showcased in the Daily Telegraph, further promoting the peak of our favourite fruit season.

Offering a host of fun for mango-lovers, the popular mango eating competitions returned, with the winners taking home a prized tray of juicy, fresh mangoes. Down on the sand, the nippers took part in further mango madness with relay races.

Back by popular demand were the intricate mango carving demonstrations, where Charlie, a nifty fruit carver, handed out over 330 beautiful flower sculptures made from fresh Aussie Mangoes! Also on offer were juicy, grilled mango cheeks, available at the BBQ station, and a social media photo booth where people could show off the brand new mango emoji!

The love for the king of fruit continued, as visitors were treated with delicious mango tastings from each of the varieties, and bicycle-powered smoothies all morning long. This resulted in our highest sampling figures ever, with a record-breaking 9250 mango samples taste-tested by Aussie's mango lovers.

To capture all the excitement, Channel 9's Weekend Today Show filmed six weather crosses throughout the morning at Mess-tival, which were broadcasted to over a quarter of a million Australians.

I'd like to say a big thank you to Marie Piconne for the Kensington Prides, Perfection Fresh Australia for the Calyposos, Ben and Ashleigh Martin for the R2E2s and Gavin and Rebecca Scurr for the Honey Golds they generously donated for the day's activities.

Social media influencers also came down to join in the celebration, with Instagram's @ThrivingOnPlants, @TheBitingTruth and @Sk_active sharing the fun with their community. Meanwhile, Channel 9's weather anchor, Alice Monfries, tried her hand at the smoothie bicycle and umpired the mango eating competition- even sharing an image on her Instagram page of the winner.

Continued page 17



This year, Mess-tival debuted a marriage of two Australian icons, with the official launch of the Australian Mangoes' limited edition Budgy Smugglers - with attendees modelling the very special edition togs at the event!

Image taken from the Daily Telegraph.



Continued from page 16

Indeed, this year's Mess-tival press office coverage and social media influencer activity has reached over 13 million people!

Whilst Mess-tival is designed to drive demand and keep mangoes top-of-mind for consumers throughout the festive season, the day's efforts also go towards raising funds for NBSLSC, who are then able to purchase much-needed life-saving equipment and dedicate more resources to training its members. This year saw a record-breaking \$18,500 raised, contributing to a grand seven-year total of over \$100,000!

Whether you contributed mangoes, watched the Today broadcast, attended Mess-tival, or devoured a mango in honour of this special day, we would like to thank everyone who took part this year. With evaluation underway, we are already looking ahead to next season's Mess-tival, which is guaranteed to be bigger and better than ever!

For more information contact Tate Connolly at Hort Innovation: tate.connolly@horticulture.com.au



RESEARCH AND POLICY

Selling Australian mangoes to China directly through e-commerce

China had more than 700 million Internet users in 2017 and has emerged as the world leader in e-commerce (Marinova 2017). Increasingly, Chinese consumers are shopping online for fresh fruits and vegetables because they don't have to pay for storage and handling costs associated with traditional retail channels. This trend could point to a potential market for Australian mangoes.

In the 2016-17 season, the Department of Agriculture and Fisheries (Queensland) (DAF) and the University of Southern Queensland (USQ) worked with mango production company, Manbulloo to assess the distribution conditions and outturn quality of R2E2 mango sent through an e-commerce company called Weishang, based on the social platform WeChat. This work formed part of the Hort Innovation Serviced Supply Chains (AM15002) project.

R2E2 mango from Manbulloo in north Queensland were air freighted to Shanghai and then repacked and consigned direct to consumers across China using the Weishang platform. Five distant cities were selected because of their wide geographic range and weather conditions (Image 1). Fruit quality was assessed in Shanghai and again at each destination city upon arrival.

Fruit were repacked (Image 2), with one box sent by air and one box sent by road to each location. The trial was undertaken in December 2016 and repeated in January 2017. Temperature data loggers were inserted into road parcels to monitor transit temperatures.

The in-country delivery logistics were good with average delivery time to the consumer of two days by air and three days by road. Some of the consignments to the northwest and northeast of China took an extra day to arrive, as flagged by the courier company before shipping.

Consumers reported positive feedback on fruit quality in 90 per cent of air and 80 per cent of road transported boxes. While there was no change in fruit skin colour, there was some fruit softening during this phase.

While the boxes had some insulation in the packaging, the lack of temperature control



Image 1. The geographic map of five locations in relation to Shanghai.

during road freight meant that temperatures inside the boxes dropped from 15 °C to 10 °C during transit to central and southern cities and to -4 °C during transport to the northern Chinese cities.

There was no chilling damage to fruit sent to central and southern China. However, 50 per cent of fruit transported north by road had chilling damage on arrival compared with 8 per cent of fruit sent by air. This was likely due to the longer period of cold exposure by road.

The experiment clearly highlighted the risk of sending tropical fruit like mangoes into cold regions without adequate temperature management.

The trial reinforced some general lessons regarding the e-commerce chain, including:

- The need for consistent fruit quality (e.g. skin colour at around 90 per cent yellow), so that all customers' "ready to eat" expectations are met.
- Understanding ambient temperatures of the areas where the product is likely to be sent.
- The importance of matching the appropriate e-commerce platform, packaging and courier practices to minimise quality loss during distribution, and

Continued page 21

The experiment clearly highlighted the risk of sending tropical fruit like mangoes into cold regions without adequate temperature management.



Image 2. Packing of Australian mangoes from trays (left) to a padded cardboard box (right) with six fruit per box for in-country delivery in China.

- Chinese importers and retailers are eager to purchase fruit for the Chinese or Lunar New Year because of the higher prices received for the fruit as a festival gift for family or friends. This often encourages buyers to hold fruit for those higher prices, but medium firmness and good fruit quality is required.

For more information contact: Noel Ainsworth, Principal Supply Chain Horticulturist, at DAF; noel.ainsworth@daf.qld.gov.au or (07) 3708 8563.

Sources: Polina Marinova, *Fortune Brainstorm Tech* 2017, viewed 10 April 2018, <http://fortune.com/2017/12/04/china-e-commerce-growth/>

Acknowledgements: The Serviced Supply Chains project is funded by the Hort Frontiers Asian Markets Fund, part of the Hort Frontiers strategic partnership initiative developed by Hort Innovation, with co-investment from the Department of Agriculture and Fisheries, Queensland (DAF), Department of Economic Development, Jobs, Transport & Resources (Victoria), Manbulloo (mangoes), Montague Fresh (summerfruit), Glen Grove (citrus), the Australian Government plus in-kind support from the University of Queensland and the Chinese Academy of Sciences.

Article submitted by Yiru Chen (DAF), Tim Sun (USQ) and Noel Ainsworth (DAF).

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Making good decisions from your cold chain temperature data

Maintaining an effective cold chain by monitoring temperature is the most important thing you can do to ensure the best quality product when it arrives in market. In the past, temperature loggers had to be retrieved to access the data, but a new generation of loggers can give you real-time information about the temperature and location of your consignment without relying on someone to retrieve the logger and send data to you.

Once you have the data, what you do with it will determine whether you get the best returns for your fruit. The more data you have, the more confident you can be about your decisions.

By monitoring the data from existing and new supply chains (new chain partners or markets) you will be able to identify where best practice isn't being followed and any critical control points in your supply chain that warrant close attention to ensure a good result.

Regularly collecting data can help you make small changes to your supply chain that will have a positive impact, particularly on the quality at arrival at the importer and the shelf life that you can offer the retailer.

REFINING BEST PRACTICE COLD CHAIN GUIDELINES

The Serviced Supply Chains project has generated data on how 'R2E2' mango fruit behave at different temperatures and for various time periods that are typical of those experienced during air and sea freight exports. The data confirms that consolidating fruit for more than four days after packing reduces shelf life at the retailer. The data also shows that fruit transported by sea freight for 20 or more days under a controlled atmosphere, has a significantly reduced shelf life, making more distant markets unattractive. These results have already driven practice change in Manbulloo's mango export chains. These findings will refine the industry best practice cold chain guidelines.

DEVELOPING PREDICTIVE MODELS

To help make good decisions based on the mountains of data from trials, simulations and monitoring of actual shipments of R2E2 fruit, the project team are developing models to predict outturn quality and remaining shelf life along an export chain. These predictive models firstly describe the export chain in its entirety and then, by linking each step in the chain, can estimate the rate of fruit quality loss during export.



John Lopresti, Senior Plant Physiologist with Department of Economic Development, Jobs, Transport and Resources in Victoria said, 'by the end of the project we are aiming to develop an easy-to-use, web-based app to predict remaining shelf life. For any consignment, growers and exporters should then be able to import their temperature data into the app and be able to simulate fruit-quality changes for that consignment'

'This should give some guidance on whether a particular consignment has been exposed to excessively high temperatures during distribution and needs to be actively managed because it has reduced shelf life,' John said.

Fruit from different farms, seasons and maturities can behave very differently, so the initial version of the web-based app will likely provide relatively conservative estimates of shelf life and recommendations for practice change. However, it will indicate the potential for this approach and the value of further development to refine the accuracy. The project team also aims to include financial decision making into the app so that, with enough data, you will be able to determine the effects of cold chain improvements on outturn quality and estimate if these

improvements are worth implementing.

No matter what amount of data you can access, a strong, trust-based relationship with your supply chain members (agent, importer and retailer) is required to maximise the benefits of this approach—regular and detailed exchange of information on the history of the fruit, temperatures and durations during distribution, and outturn quality, are important.

For more information contact: Noel Ainsworth, Principal Supply Chain Horticulturist, at DAF; noel.ainsworth@daf.qld.gov.au or (07) 3708 8563.

Acknowledgements: The Serviced Supply Chains project is funded by the Hort Frontiers Asian Markets Fund, part of the Hort Frontiers strategic partnership initiative developed by Hort Innovation, with co-investment from the Department of Agriculture and Fisheries, Queensland (DAF), Department of Economic Development, Jobs, Transport & Resources (Victoria), Manbulloo (mangoes), Montague Fresh (summerfruit), Glen Grove (citrus), the Australian Government plus in-kind support from the University of Queensland and the Chinese Academy of Sciences.

Article submitted by Noel Ainsworth and Yiru Chen from DAF.

Manbulloo Mangoes tests blockchain technology on its Burdekin mango farm

Work on a new pilot project promising to enhance quality monitoring of northern Australian mangoes and reduce food waste kicked off in the Burdekin this month. CRCNA-backed startup, Trust Provenance, implemented the solution at Manbulloo’s Horseshoe Lagoon property, with the trial now monitoring mangoes as they are boxed, stacked in pallets and loaded onto trucks ready to be sent to market.

The \$755,000 project was awarded \$272,700 in funding from the Cooperative Research Centre for Developing Northern Australia (CRCNA) as part of its open funding call in October 2017. Since then, Trust Provenance has been honing its platform, and waiting for the mango harvest to hit full stride at the North Queensland property.

Using a network of sensors attached to fruit trays and pallets, the trial is tracking tens of thousands of mangoes on their journey from the farm to the retailer. The sensors will time stamp the fruit as it’s boxed, then provide real-time data feedback on temperature and humidity. The trial is set to help all parties along the supply chain better understand how various factors influence the quality of the fruit that ends up on consumer’s plates, while providing retailers with more information to help them reduce fruit spoilage and waste.

The platform is providing valuable insights to growers, packers, logistics providers and retailers as it incorporates internet of things (IoT) technology for measurement and monitoring capabilities, and blockchain technology to ensure food safety, food quality, food traceability and food authenticity.





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**AUSTRALIAN
MANGOES**

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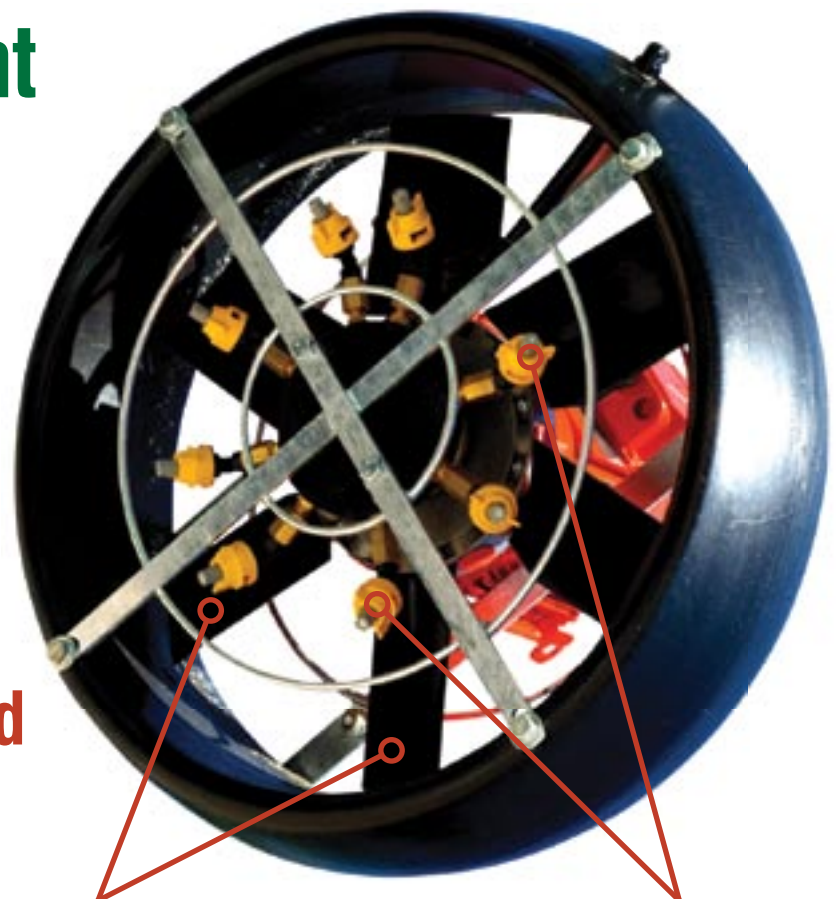
High quality spraying,
reducing losses

High speed spraying

Reduce labour, fuel and
chemicals

Spray in windy
conditions

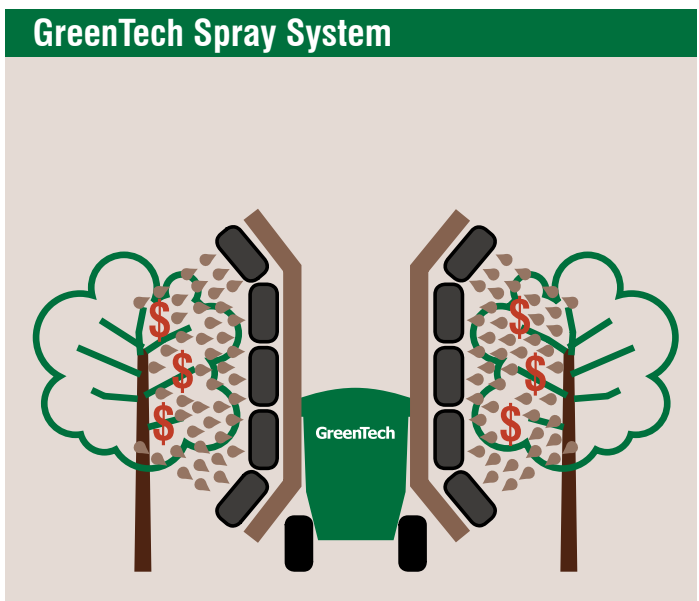
SARDI & CSIRO tested fan



Max air volume of 17,000 m³/hr per spray head, achieve the optimum turbulence within the canopy

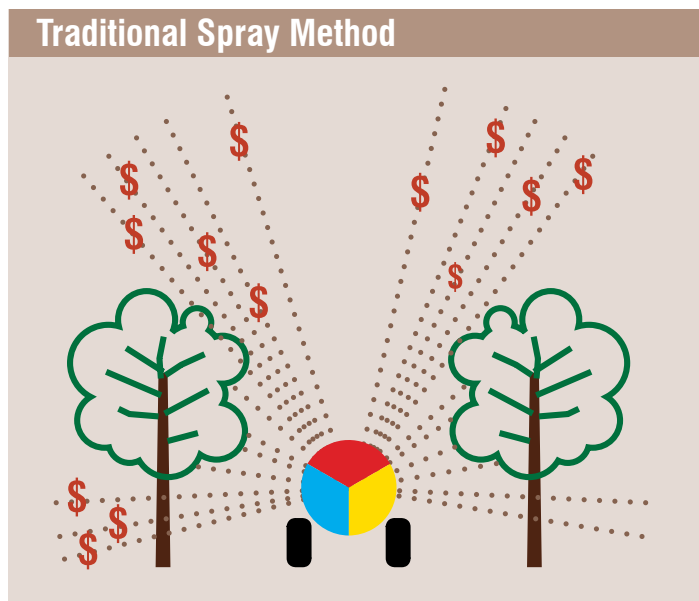
No damage to tractor's hydraulic systems
Requires less tractor power and less fuel

Adjustable hollow cone spray nozzles



What spray results are you getting for your dollar?

Patent pending



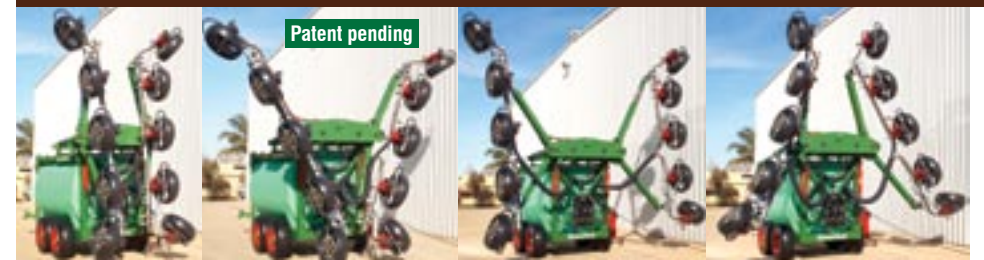
GreenTech Australia is a privately owned company based in South Australia. The company specialises in the design and manufacture of innovative technology to service the agriculture, horticulture, and viticulture industries. The company started its projects in collaboration with Fosters Wine Group (formally SouthCorp Wines) developing a revolutionary 3-Row spray system for the control of pests and diseases in vineyards. Later, GreenTech also collaborated with Yandilla Park Ltd, the largest orchard fruit grower in Australia.

Incorporated in 1997, GreenTech International Pty Ltd (T/A GreenTech Australia) recognised the need for more efficient control of pests and disease in vineyards. As world markets become more competitive, the demand for better quality harvests has increased. The largest wine companies in the world have purchased the GreenTech Spray Systems, and today make the statement that "they own the best spray technology in the world". The success of the GreenTech Spray System is based on the company's philosophy of delivering the very highest quality technology and support service to their clients worldwide.

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(ABN 53 079 842 541)
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PO Box 2232 Regency Park SA 5942
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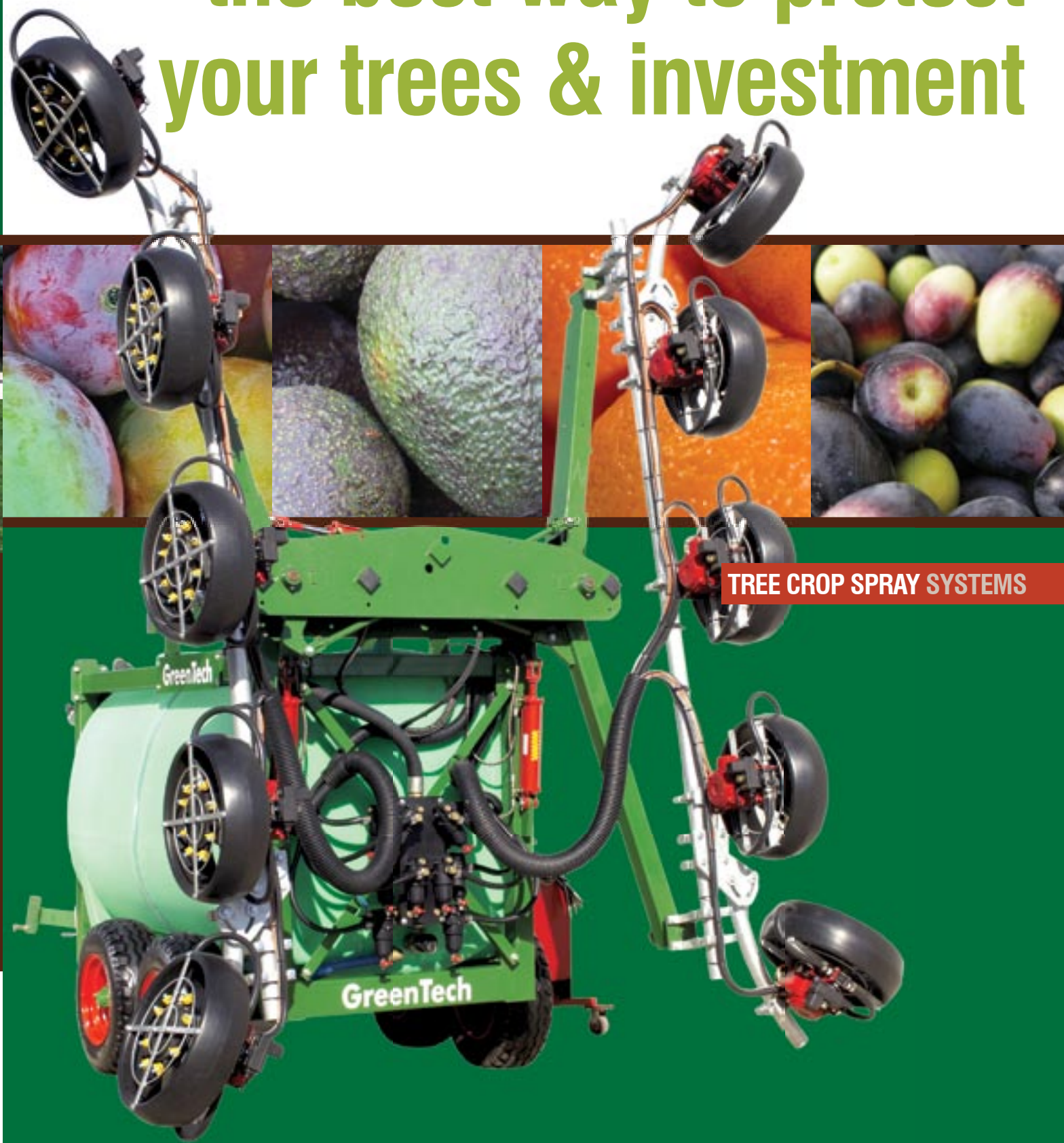
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TREE CROP SPRAY SYSTEMS

GreenTech Australia is a leading supplier of chemical application technology, providing the finest solution for controlling pests and diseases. There are many reasons why the most successful horticultural companies in the world buy GreenTech Spray Systems.

Reduction of Fuel Costs

The GreenTech Spray Systems use electric motor-driven fan heads which are more efficient than hydraulic. This means GreenTech Spray Systems require less tractor power and diesel fuel, reducing running costs.

Reduction of Soil Compaction

GreenTech Tree Spray Systems feature 4-wheel tandem axles and floatation tyres. Soil compaction can be significantly reduced.

Reduction of Chemical Cost

USA and Australian trials show that GreenTech Spray Systems cover all parts of the canopy, reducing chemical usage, saving costs and giving a more ecologically friendly harvest.

Environmental Benefits

Unlike conventional spray equipment, the GreenTech Spray System reduces overspray of chemicals onto the ground and into

2000L/3000L/4000L Tall Tree Spray System

Row Spacing	Down to a 1.8m canopy gap
Tank Size (Standard)	2000L/3000L/4000L 540/800/1100 US Gal
Tank Size (Customised)	5000L/6000L 1330/1600 US Gal
Accessories	Please enquire for details.



Patent pending

Single pump 406L/min

Optional dual pump for high spray rates (maximum up to 812L/min)

Linkage drawbar or articulated hitch options

5000L to 6000L (1330Gal to 1600Gal) tank size available for high volume spraying

Spray controllers for quality assurance and managed spray applications

Tandem wheels available with a variety of floatation tyres

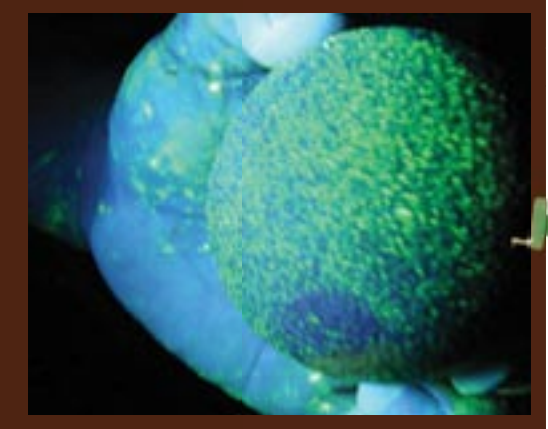
TREE SPRAYERS

GreenTech Australia has collaborated with Yandilla Park Limited (one of the largest fresh fruit growers in Australia) in the development of a Spray System for tall trees. The system has been successfully and commercially used over several seasons spraying citrus and avocados. The results quoted by Yandilla Park Limited include:

- 25% lower chemical/water volumes
- increased ground speed and working rate
- insecticide and insecticide plus oil trials were applied at approximately 38-59% lower chemical/water volumes when compared to regular oscillating boom units



Images of GreenTech fluorescent dye testing show superior coverage.



High Quality Spraying and Reduced Crop Losses

The GreenTech Spray System provides 100% coverage, ensuring excellent protection. A considerable profit is achieved with reduced orchard production losses.

High Speed Spraying

In case of disease outbreak high speed spraying is important. GreenTech's increased operating speed and large tank sizes provide for minimum water/chemical refilling interruptions and immediate crop protection in emergency spraying programs (3000L-4000L standard, 5000L-6000L available on request).

Spraying in Windy Conditions

With GreenTech technology the spray-liquid is contained within the tree canopy, making it possible to spray efficiently in windy conditions when conventional spray equipment is unsuitable.

Reduction of Labour Cost

A reduction of up to 50% in labour costs can be achieved with a 2-Row System 'Complete Over-the-Row' (see Fig. 8), compared with conventional spray methods.

the atmosphere. The GreenTech Spray System directs the spray exactly into the canopy with a minimum of target loss. Electric fan motors also remove the risk of hydraulic oil contamination.

Marketing Opportunities

Reduced chemical use means your customers can be confident that the fruit harvested from your orchard is not only of the highest standard, but also meets all of their requirements.

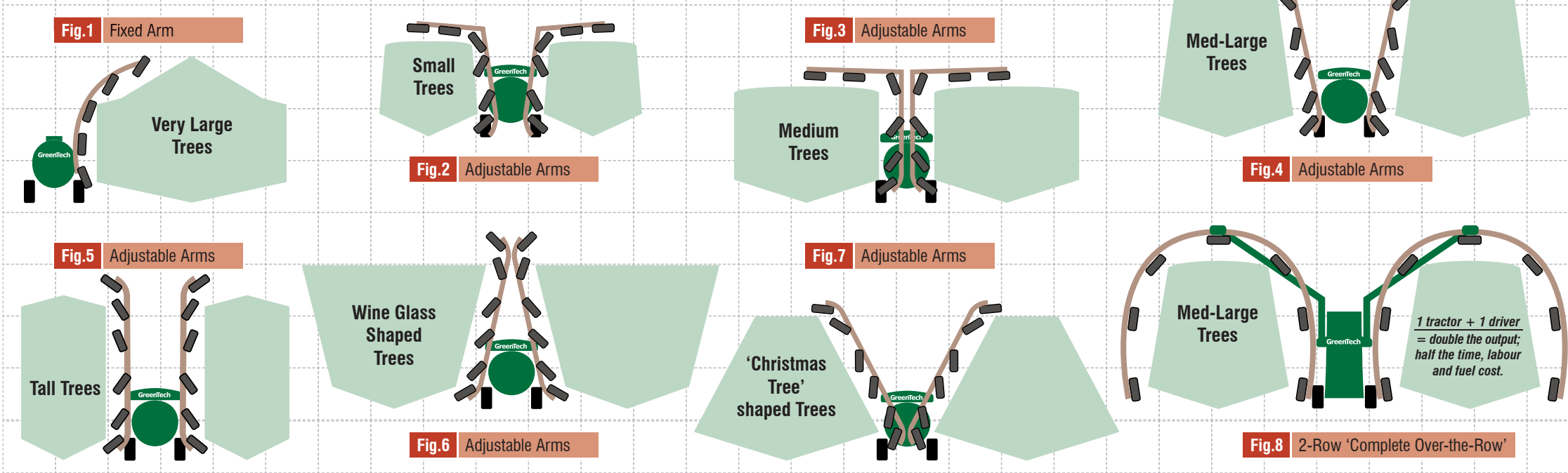
Occupational Health & Safety

GreenTech Spray Systems comply with International and Australian Standards under AS2790 and AS3010.1, meeting all relevant safety measures and regulations. And since GreenTech Spray Systems provide higher spray coverage with lower chemical volumes it means operator exposure is also reduced.



ARM CONFIGURATIONS

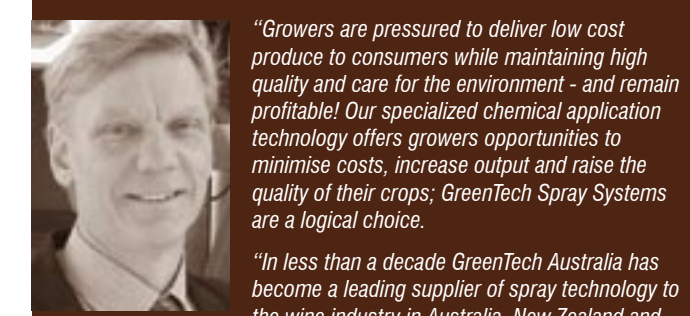
No matter what shape your orchard trees are, a GreenTech will do the job!



Patent pending

Patent pending

GREENTECH - LOGICAL CHOICE



"Growers are pressured to deliver low cost produce to consumers while maintaining high quality and care for the environment - and remain profitable! Our specialized chemical application technology offers growers opportunities to minimise costs, increase output and raise the quality of their crops; GreenTech Spray Systems are a logical choice."

"In less than a decade GreenTech Australia has become a leading supplier of spray technology to the wine industry in Australia, New Zealand and the U.S.A. We have achieved our success by listening to growers and pride ourselves on delivering reliable machinery and the best after sales service to growers."

"We have now adapted our spray technology for the horticultural industry; our investment aims to deliver the same protection benefits to tree-crop growers that we have achieved in vineyards. Drift reduction and targeted spraying can reduce the use of expensive chemicals, diesel fuel, labour and capital equipment; making the technology and efficiency of GreenTech Sprayers the best solution. Growers should consider GreenTech Spray Systems for better results and profits."

Benz Baek, Managing Director, GreenTech International Pty Ltd.

Patent pending