

# MANGO MATTERS

JANUARY 2020 / VOLUME THIRTY-EIGHT



SUMMER ISSUE

## MANGO MADNESS

KICKED OFF THE START OF SUMMER AT BONDI BEACH  
FOR THE 8<sup>TH</sup> ANNUAL MESS-TIVAL EVENT *(page 14)*

### PLUS

Biosecurity—Black Twig Borer *(page 16)*  
Improving supply chain traceability *(page 17)*  
Fishing for flies *(page 20)*



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## Congratulations to AMIA Chairman Ben Martin!

We would like to congratulate Australian Mango Industry Association (AMIA) Chairman Ben Martin who was awarded ABC Rural and Kondinin Group 2019 Young Farmer of the Year in October.

**MORE ON PAGE 24**

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*Mango Matters* has been funded by Hort Innovation, using the mango research and development levy and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

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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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At the time of writing the Darwin, Katherine and Kununurra seasons are coming to an end, Bowen/Burdekin is in full swing and Carnarvon, Mareeba/Dimbulah and South East Queensland (SEQ) are beginning their seasons.

It has been a diverse season this year. On one hand the Darwin region has produced over three million trays—the region's biggest season on record. While other regions have been down on last season's volumes, mostly due to extreme weather conditions. Our thoughts have been with growers that have faced a particularly challenging season, having lost crop due to bushfires, severe sunburn or frost.

Some growers have also shared their concerns with me regarding the prices they have received for their mangoes this season. Australian Mangoes want growers to receive a sustainable price for their fruit and will conduct a review into prices this season.

**“Australian Mangoes remind growers that the best way to keep mangoes front of mind and in demand is by delivering a quality piece of fruit and by ensuring your forecasts are kept up to date”**

*- Robert Gray*

The team will also continue to work on alleviating pressure on the domestic market by working on marketing activities across the industry and market access to export markets.

Australian Mangoes remind growers that the best way to keep mangoes front of mind and in demand is by delivering a quality piece of fruit and by ensuring your forecasts are kept up to date; this includes predictions for class two fruit, which have been included in the forecast this season. Our Industry Development Officers and Industry Development Manager are there to assist you with your decision to pick and maintaining an accurate forecast. Please get in touch with them if you need support.

The team have been busy over the past few months delivering the pre-season roadshows in Queensland and Western Australia, along with putting on our annual Mess-tival event and Grower Market Tour. I would like to commend the team for their hard work at delivering these events. I have received some excellent feedback from those that attended. Reports on these events are included in this edition.

Work has also begun on tracking mango consignments to gain a better understanding of the conditions in which mangoes travel on their journey from the packhouse to the main markets across Australia. This is year one of a three-year initiative which seeks to improve overall supply chain performance of the industry as part of the mango levy funded Hort Innovation project MG17000 Building Best Management Practice Capacity for the Australian Mango Industry. You can read more about this on page 18.

Australian Mangoes would also like to remind the whole industry about the importance of accurate product identification which allows clear traceability back to the point of production. One project that aims to improve traceability is The Cooperative Research Centre for Developing Northern Australia's (CRCNA's) Smart supply chains project. An update on this project can be found on page 17.

On a final note, I would like to acknowledge Ben Martin for being awarded the Australian Young Farmer of the Year. I also hope everyone had a happy and safe festive period and wish growers that are still harvesting all the best for the remainder of their season.

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# CHAIRMAN'S REPORT



**Ben Martin**  
Chairman, AMIA

Email: [bjmenterprises@live.com](mailto:bjmenterprises@live.com)  
Mob: 0400 125 928

**I am pleased to announce that AMIA has submitted the market access improvement submission for China, Korea and Japan.**

This is an important step in achieving our industry export goals. We will be working with all levels of government and industry to help make this submission move as quickly as possible. Achieving these advised protocols will help alleviate oversupply in the domestic markets during the season.

At the time of writing some growers have expressed their concerns to me about selling their fruit for below the cost of production.

This is not sustainable and AMIA will be conducting a review to look into why the domestic markets are giving some growers returns at these prices. We want to ensure growers are getting a reasonable price for the mangoes they produce.

The quality of fruit coming out of the Bowen / Burdekin region overall has been good with consistent volumes each week. With little rain forecasted it is important for growers to use what water they have wisely.

I hope everyone had a Merry Christmas and a Happy New Year. For those that are still harvesting or about to start, I wish you a prosperous season.

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# DIRECTOR REPORTS



## FAR NORTH QUEENSLAND & NORTH QUEENSLAND



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The region has experienced some hot weather over the past week (being the first week of December) and is currently experiencing a few cooler mornings with temperatures as low as 18 degrees which may slow things down a little. Growers are seeing a little sun bleaching/burn starting to show through. Some Dimbulah growers have commenced select picks on their Kensington Pride fruit, but from what I have been told are still not seeing large numbers of fruit ready. This will mean that most growers are likely to conduct full picks closer to Christmas or just afterwards. There still looks to be a very distinct difference between the early pick fruit and the second pick. It looks likely that our region will not overlap too much with the Bowen/Burdekin region's fruit being in the market at the same time, which is a benefit for growers from both regions.

There have also been some fires around the area with some growers being impacted, although only minimally as far as I am aware. The risk of more fires is still very high with the hot dry weather and I hope everyone manages to stay safe and avoid any major issues with fire. Weather forecasting is indicating some chance of rain later this week (9 December at the time of writing this report) which would benefit the crop as long as it is not with destructive wind or storms.

Forecasted volumes are on track at this point for the Mareeba/Dimbulah region. Our IDO, Marine has been active in the area getting out to growers and testing their fruit's dry matter, but I urge growers not to just rely on the dry matter results and to also consider fruit fullness, shape and internal colour as a guide to fruit maturity.

Lastly, I wish everyone a successful harvest and hope everyone had a safe and happy Christmas.



*John Nucifora*  
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At the time of writing, the Mareeba/Dimbulah harvest has just begun with some early season growers starting to pick.

It appears that volumes will be down on last year at this stage, but we will not know how far down until the season progresses.

At the moment the hot weather is having some impact on the fruit, but all in all there are still good volumes of quality fruit expected to be dispatched out of the region.

I would like to see Mareeba/Dimbulah growers achieve good and sustainable prices this season. This will be achieved by growers sending good quality fruit to market.

I wish everyone in the region well for their season ahead and hope those that have finished in other regions also had a good season.

## SOUTHERN QUEENSLAND & NEW SOUTH WALES



*Karl Gygar*  
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At the time of writing the south east region is just commencing harvest. With the busy Christmas and new year period still to come.

Many growers have faced tough conditions with continued dry, hot weather in the northern areas and hot and stormy weather in some of the southern reaches of the region. The ongoing threat of fire is also a strong concern for many.

Growers should be very conscious of the effects of sunburn in these conditions as trees can become water stressed very quickly.

I would like to take this time to remind you to get up to date with the Horticulture Award changes. With additional people and an increase in hours it is important that you understand your obligations and the impact the changes may have on your business.

Finally, I hope that everyone has managed to find some time for celebration over the holiday period.

*Continued page 7*



**“I would like to take this time to remind you to get up to date with the Horticulture Award changes.”**

*- Karl Gygar*

At the time of writing we are having a very hot December and are watching Department of Fire and Emergency Services (DFES) fireground maps, as there are large fires in the Gingin region. Apart from that hazard, we have freshly set crops in Gingin after good flowering, but with a string of 40 degree (or more) days of dry heat, we'll see what is left when the weather calms.

In Carnarvon it is looking like a light crop this year with picking to start in a few weeks. The size is looking on the small side of average. There has been significant sunburn damage. It is good that one of the WADPIRD projects underway in Carnarvon is an overhead netting trial looking at the cost benefit of different types of structures that aims to protect crop from sunburn, among other things.

As Treena mentioned at the roadshow meeting, our current marketing plan is coming to an end. It is apparent that our summer fruit is competing against other summer fruit and I think to preserve our place in the market we need to step up our marketing and maybe step into the advertising space. I think the saying that you need to spend money to make money applies to our businesses like any other, and we need to look at all options available to us. I am looking forward to the recommendations of the marketing review and encourage all growers to be engaged.

*Continued page 8*

*Continued from page 6*

## **SOUTHERN WESTERN AUSTRALIA**



**David Morcombe**  
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I hope everyone had a good festive season. We have just had the roadshow meetings for Carnarvon and Gingin. It was great to see the large turnout in Carnarvon. It is a long trip for the AMIA team, and I want to thank them on behalf of this region for their effort and commitment. Growers certainly appreciated the opportunity to be kept up to date with all that is happening in the industry. It was good to see green shoots at Western Australia Department of Primary Industries and Regional Development (WADPIRD) and the projects underway in the Carnarvon region.

# **PLANTING MANGO TREES?**

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# DIRECTOR REPORTS

(cont'd)



## NORTHERN TERRITORY & NORTHERN WESTERN AUSTRALIA



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The 2019 mango season for the Darwin region has ended with another big mango season. Darwin has sent 3.1 million trays down to southern states. This was in part due to multiple flowerings over the dry season—we had ripe Australian mango being harvested as early as July, with final R2E2 fruit coming off Northern Territory (NT) trees in the first week of December. This has been a long drawn out season for many farmers. Prices were low in early November with many growing regions; including Darwin, Katherine, Kununurra and Bowen harvesting mangoes.

The weather has at times created tough conditions in the NT, we had heatwaves in the region with many maximum (and minimum) temperature being broken. I advise workers out in field to stay hydrated and safe in the hot conditions experienced in all regions.

The wet season/monsoon season has been somewhat absent over the last year. It is hoped that we can get some decent rainfall in the new year as the groundwater aquifer is getting quite low. Bureau of Meteorology (BoM) advise that we might see the first monsoon in January, slightly later than the normal December monsoon period.

Access to availability of workers and new restrictions regarding over time laws under the amended Horticulture Award in April 2019 has been a major issue affecting many growers this year.

Many had to let good workers go after they reached their ordinary hours of work limits. There have also been logistical challenges from an administration perspective in order to keep track of worker hours. This will continue to be a major issue in the future for many growers, as many of the seasonal and holiday workers may determine it is not worth the effort working on farm if they are restricted to 304 hours over 8 weeks.

Most farmers in the region are currently machine or hand pruning their mango trees, with some even taking off for a holiday. I hope all growers and readers had a Merry Christmas and Happy New Year.



**Geoff Warnock**  
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**KUNUNURRA:** Another season has drawn to a close with mixed results. This season was drawn-out requiring a number of picks because of a long flowering period and slow development of fruit. The upside of a longer season was that it took the pressure off accessing transport and casual labour.

Growers who had a good spray program, maintained it, and presented their fruit well achieved reasonable returns for their effort. There was however some produce dispatched that should not have been. This along with the Darwin season being drawn-out created an increase in volume which put pressure in the market place.

Most trees in the region are like the residents; looking forward to the wet season starting.



**Joe Perry**  
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As I write this the season is complete for most growers in the Katherine region.

Yields on Kensington Pride across the region have been up on last year with the greater yield resulting in smaller size fruit.

Most producers in the region had their own window of picking and packing so the market was not oversupplied with volume at any one time.

Keen pricing in retail has meant that stock from the region has moved through the supply chain in a timely manner.

Quality was relatively good across the region this season, however there was some poorer quality fruit during the back-end of the season due to sustained days above 40°C.

R2E2 volumes were steady and there were some challenges selling this fruit due to some export markets facing unrest (i.e. in Hong Kong) and also an overlap with our friends in the Burdekin region.

Congratulations must go to the team at Hort Innovation and Australian Mangoes for another successful Mess-tival. I had the privilege of attending the Sunday event along with the Monday market walk and visit to the N&A Group facility in Orchard Hills, Aldi DC at Prestons and the Costco store in Auburn.

All of the attendees on the day enjoyed the tours and the openness of the hosts was much appreciated.



# AMIA & INDUSTRY NEWS

## Pre-season roadshows—it's a wrap

The pre-season roadshows are over for another year and the team has enjoyed catching up with everyone who attended. Following the roadshows in Kununurra, Darwin, Katherine, Bowen, Ayr and Mareeba/Dimbulah in August, we ventured to Rockhampton and Bundaberg in late October/early November. In early December we then set off for Carnarvon and Gingin.

The roadshows included updates from Australian Mangoes, Hort Innovation, Central Queensland University, Queensland Department of Agriculture and Fisheries, ADAMA, Western Australia Department of Primary Industries and Regional Development and Western Horticultural Consulting.

There was fantastic attendance at each roadshow, and we hope this will continue at future events. Stay tuned to our weekly newsletter for announcements about upcoming events.

Thanks to all of those that organised, presented and attended and to our hosts; Tim and Jenna Keogh (MMM Mangoes & Avocado's), Cameron and Muppi Dean (Gin Gin & Dry), Carnarvon Research Station and Shane Kay (Northern Valley Packers).

A special mention to our Industry Development Officers Sarah Hain and Marine Empson for their hard work on the pre-season roadshows.



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# INDUSTRY FACEBOOK PAGE LAUNCHED

If you haven't already heard in our weekly newsletter, in October we launched an industry Facebook page: [Australian Mangoes-Industry](#) (make sure you type in @australianmangoes to view the correct page if you're searching in the search bar).

This page provides us with another way to keep our industry stakeholders up to date with industry news and information. So be sure to check it out and give it a like!

If you have any feedback or would like us to share something, let us know by contacting Communication Manager Jessica Mitchell at: [com@mangoes.net.au](mailto:com@mangoes.net.au) or tag us in a post.

Note—this is separate to the Hort Innovation run [@AussieMangoes](#), which is aimed at mango consumers.

## Mango price reports

Weekly updates of mango market prices from each of the wholesale markets across Australia (provided by Ausmarket) can be found at: <https://www.industry.mangoes.net.au/market-prices>.

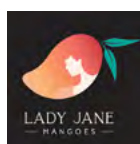
The price reports resumed in November, following several months of negotiation. Australian Mangoes would like to acknowledge the following sponsors who came on board to make this possible.

If you would like more detailed pricing, Australian Mangoes in partnership with Ausmarket are offering all AMIA members a discounted daily subscription offer that can be tailored to suit your requirements. Visit the above link to access this form.

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## New accreditation procedure: QLD to WA

Acceptance of a new accreditation procedure was recently announced. The procedure allows Queensland (QLD) producers to meet Western Australia (WA) plant entry requirements of a Pest Free Place of Production for Mango Seed Weevil (as described in WA Import Requirement 12).

MSW-01 will allow the facilitation of market access in a similar manner to other interstate accreditation arrangements.

For a copy of the procedure or if you have any questions, please call IDO Marine Empson on 0457 555 838.

Please note that in addition to MSW-01, WA also has requirements regarding fruit fly i.e. ICA01, ICA02. Please contact WA Quarantine on 1800 084 881 to confirm these requirements.

## World's first International Year of Plant Health

### 2020 will be the International Year of Plant Health (IYPH).

Minister for Agriculture Bridget McKenzie said the theme for the year was 'Protecting plants, protecting life' underlining the need for everyone to understand and take seriously their role in protecting Australia's biosecurity.

Executive Director and CEO of PHA, Greg Fraser, is encouraging everyone who depends on plants to get involved in the celebrations.

"This could be by promoting your plant health champions, injecting the plant health theme into your events or highlighting plant biosecurity practices," he said.

To read more and find out how you can be involved visit:

<https://planthealthyear.org.au>.



INTERNATIONAL YEAR OF  
**PLANT HEALTH**  
2020

## Hort Innovation news

### NEW BOARD

New and returning Board members will help oversee the nation's horticulture Research and Development Corporation (RDC), Hort Innovation, following an election at the not-for-profit's Annual General Meeting in Sydney in November.

Hort Innovation Chair Selwyn Snell said the new and returning recruits—Jan Vydra (new), Paul Harker (returning) and Robert Clark (returning)—will be among those positioned at the helm during a never-before-seen period in the RDC's history.

### NEW RESOURCE

A new resource designed to arm horticultural growers with everything they need to grow their business has been released by Hort Innovation.

A new podcast series titled "Growing Matters" is now freely available to download or stream through Apple Podcasts, Spotify and Stitcher.

Visit [www.horticulture.com.au](http://www.horticulture.com.au) for more information and updates.



Hort Innovation's Growing Matters podcast series is here. Promising something for everyone, it's chock-full of practical and interesting info for horticulture growers – and you can listen whenever and wherever you want.

**All-new episodes are out now**, including:

- How to access and use industry, retail and consumer data and insights
- Starting out or strengthening your export game – support and programs available
- What you need to know about the future of pollination in Australia
- Harnessing the power of good fats in horticultural produce

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**Hort  
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# PR & MARKETING

## Growers on tour

As Australia celebrated the first weekend of summer and the start of the festive season, a diverse group of growers from across the country, representing all varieties of mangoes left their farms and boarded the bus to experience all the energy and excitement of mango season at the other end of the supply chain.

This was the 6<sup>th</sup> year Australian Mangoes has hosted the annual Grower Market Tour and the event attracted record grower attendance and excellent supply chain partner participation. The three-day 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 tour 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 boarding the bus included: Leo Skliros from Skliros Produce, Darwin; Kris Bailey and Peter Phillips from Acacia Hills Farm, Darwin; Joshua Clementson, Joe Perry, and Richard and Hani Byllaardt from Nutrano, Katherine; Jonathan and Katrina Land from LJ & N Land, Gumlu; Betty Masasso and Lorraine Stopford from Rocky Creek Orchards, Mareeba; Gloria, Ian and Scott Pershouse and Renee Heath from IH & GA Pershouse, Benaraby; Karina and Janelle Sullivan and Duncan Kirk from Sullivan Bros, Carnarvon.

The tour began on Saturday with visits to a wide range of stores including; Aldi, Coles, Costco, Harris Farm Markets, independent green grocers, 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!

The day was made extra special when the team at Harris Farm Markets Drummoyne surprised growers with an extraordinary long lunch featuring mangoes in every dish. The bespoke session began with a tour of the store and an overview of the company's business model. The conversation continued over lunch, with the team sharing insights about the importance of mangoes to their operation, and their strategy for ensuring consumers see Harris Farm Markets as *The Home Of Mangoes*®.

Sunday was a day of 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 their passion, gave tips and advice, handed out samples, and smiled for the paparazzi.



Mango displays scream "King of Fruits".

The afternoon was spent visiting more stores before finishing with a behind-the-scenes presentation of the Metcash/IGA business model and the important role mangoes play within their fresh produce.

Growers were given an overview of the company's mango strategy, performance over the past three years, future aspirations, and their plans for getting there.

Monday was our final day and the group boarded the bus bright and early for a tour of the Sydney Wholesale Market giving growers the opportunity to meet and speak with wholesalers and gauge the pulse of the market. Next stop was Pacific Fruit Brokers, the new ripening and packing operation owned by mango wholesaler N&A Fruit Distributors. Ripening plays a critical role in the quality of mangoes and as growers toured the facility, they were given a comprehensive overview of the operation and its' capability. The remainder of the day was spent in separate, behind-the-scene sessions hosted by the Business and Technical Managers of Woolworths, Aldi and Costco. Each of the retailers provided growers with an overview of their business model and an understanding of their mango marketing plans.

Continued page 13



Jonathan Land from LJ & N Land, Gumlu.



Lorraine Stopford and Betty Masasso from Rocky Creek Orchards, Mareeba.



Mango growers celebrating Mess-tival.



Touring N&A Fruit Distributors new ripening centre and packing facility.

Jonathan and Katrina Land checking their fruit in the Sydney Market.

Continued from page 12

Tours of an Aldi distribution centre and a Costco warehouse gave growers a deeper understanding of the different styles of operation; what makes them unique, their service and quality requirements, and the receivals, order picking, dispatch and quality assessment processes.

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 2019 Grower Market Tour an extraordinary experience and an unforgettable mango memory!

**For further details contact Treena Welch, Australian Mangoes Marketing Manager: P: 0417 001 253 E: [marketing@mangoes.net.au](mailto:marketing@mangoes.net.au)**

**Hort  
Innovation**



Mango growers enjoying a long lunch with all things mango at Harris Farm Markets, Drummyoene store.



Drummyoene Store Manager and host Johnny Pedavoli serving mango and prawn pizzas.



Aldi share their mango quality assessment process.



Harris Farm Markets—The Home of Mangoes®.



Growers Janelle Sullivan and Duncan Kirk from Sullivan Bros, Carnarvon.



Katrina Land, Bryony Hackett and Marine Empson.

# MANGO MADNESS

## KICKED OFF THE START OF SUMMER AT BONDI BEACH FOR THE 8<sup>TH</sup> ANNUAL MESS-TIVAL EVENT

On Sunday, 1 December 2019, Australian Mangoes together with North Bondi Surf Life Saving Club, hosted the 8th annual Mess-tival—a celebration of all things mangoes.

This year's event fell on the first day of summer and coincided with the peak of mango season. Growers from across the country attended the event, and donated delicious, juicy mangoes that were sampled by festival-goers throughout the day. Crowds were not deterred by the moody weather as North Bondi was filled with mango covered faces and sticky fingers as thousands of people flocked to the beach and took part in the festivities. By mid-morning, the clouds had cleared, and it turned out to be a beautiful summer day—the perfect weather to enjoy a delicious mango.

In the lead-up to Mess-tival, Aussies proved just how mad for mangoes they really are, with over 65 per cent of the nation (equivalent to 12.5 million Aussies) participating in a survey that deemed the juicy fruit as their ultimate seasonal snack.

To celebrate the country's love of mangoes, Bondi Beach was given a makeover in line with Mess-tival, by being renamed 'Mango Beach'. This is the first time in history that the iconic Sydney beach has been renamed and we're proud mangoes were given that honour. After all, what could be more iconic than the king of fruit taking over Australia's favourite beach?

On the day, we saw the return of the popular mango eating competition, which proved to be a hit amongst parents and children alike. Mango lovers were also treated to beautiful mango flowers that were carved right before their eyes, as well as delicious mango cheeks from the BBQ and bicycle-powered smoothies all morning long. This year also saw the return of the limited edition range of mango themed Buggy Smugglers.



Back by popular demand, the Buggy Smugglers became a huge drawcard for many festival-goers, especially those participating in the mango eating competitions. On the beach, hundreds of nippers took part in their weekly relay races, where they were treated to delicious mangoes to refuel their energy after a big morning in the surf. The kids were so excited by the event that many gathered around the coveted Mango Beach surfboards on the beach for a quick snap before heading up the forecourt to get amongst the action.

Leading up to Mess-tival, we achieved quality pieces of media coverage and generated excitement across gold tier print, online and broadcast titles which helped to drive attendance on the day. Coverage appeared in the likes of [Time Out](#), [Wentworth Courier](#), [FIVEaa](#) radio and more. In addition to this, [Nova 96.9](#) promoted the event over radio waves to thousands of listeners.

*Continued page 15*





Continued from page 14

In total, we saw 30 pieces of coverage go live supporting the event, which included [Broadsheet](#), [Zimbio](#), and [Australia's Guide](#). The Budy Smugglers were also featured on *Studio 10* in the days leading up to Mess-tival as part of a fantastic segment on the morning talk show where they promoted the event to their viewers. Audience members were treated to a special giveaway bundle which included the sought-after swimwear.

On social media, mango mad influencers posted their mango excitement pre-event; Instagram's [@bondi\\_mumma](#), [@lessbeggs](#) and [@deanogladstone](#) all shared snaps with trays of mangoes, and details of the event with their followers, as well as adorable shots of them and their kids in the mango Budy Smugglers.

This was the eighth time Australian Mangoes hosted Mess-tival on Bondi Beach, it's an important day for us to celebrate the season and all the hard work of our amazing growers. It also gives us the chance to give back to the community by partnering with North Bondi Surf Life Saving Club, who have been an ongoing partner since we launched the event in 2011. This year alone we managed to raise over \$14,500 for the club, which is an incredible result, and something we should all be proud of!

So, whether you contributed mangoes, watched the Studio 10 broadcast, attended Mess-tival yourself, or supported from afar, this year's Mess-tival was a massive success due to each and every one of you reading this. Thank you!

**For further details contact Tate Connolly, Hort Innovation Marketing Manager: P: 0427 145 642  
E: [tate.connolly@horticulture.com.au](mailto:tate.connolly@horticulture.com.au)**

**Hort  
Innovation**



# BIOSECURITY, RESEARCH & POLICY

## Biosecurity—Black Twig Borer

This edition we look at the Black Twig Borer. Information has been sourced from Plant Health Australia. For further information visit: <https://www.planthealthaustralia.com.au/wp-content/uploads/2013/01/Black-twig-borer-FS.pdf>.

### WHAT IS IT?

Though not currently found in Australia, the black twig borer (*Xylosandrus compactus*) infestation becomes apparent when die-back of twigs and branches occurs. A severe infestation can kill host plants, including large trees.

### WHAT TO LOOK FOR?

The female black twig borer is a very small (1.6mm) long, shiny, black, cylindrical beetle. Males are half as long as females and incapable of flight. Eggs are extremely small, oval, white and translucent. Black twig borer grubs are white and legless. The body of young grubs is pointed at the rear. Older grubs have brownish heads and round tails.

### WHAT DAMAGE DOES IT CAUSE?

Female black twig borers tunnel into woody twigs leaving pin-sized entry holes, usually on the underside of twigs. Once inside they excavate galleries and lay eggs. This excavation, along with the introduction of pathogens, is the major cause of damage to the host. Female beetles introduce a fungus on which the grubs feed. Infestation by one to three females is sufficient to kill the twig or branch.

### HOW CAN I PROTECT MY ORCHARD FROM THE BLACK TWIG BORER?

Check your orchard frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common mango pests so you can tell if you see something different.

**If you see anything unusual, call the Exotic Plant Pest Hotline on 1800 084 881.**



An adult black twig borer. Photo courtesy Michael C. Thomas, Florida Department of Agriculture and Consumer Services, Bugwood.org | CC BY-SA 3.0.



Black twig borers in their gallery, which they inoculate with symbiotic fungi that serve as food for adults and larvae. Photo: Raffaele Giurato.



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# Improving supply chain traceability

**Australian Mangoes values product identification that allows accurate traceability. It gives consumers confidence in the product that they are buying and gives producers reassurance when they are able to trace their product throughout the supply chain.**

We would like to remind the whole industry that accurate product identification allows clear traceability back to the point of production.

In the last few seasons, major retailers including Woolworths, Coles and Metcash (IGA) have also asked their Australian mango suppliers to move toward a more defined PLU label incorporating DataBar. We have seen many growers move toward these labels, which has created more visibility and traceability in the supply chain.

Another project that aims to improve traceability and create a smarter supply chain is the The Cooperative Research Centre for Developing Northern Australia's (CRCNA's) [Smart supply chains project](#).

The project is one step closer to delivering for the industry, after securing more funding to scale-up commercial on-farm trials. The CRCNA collaboration between Manbulloo, blockchain start-up T-Provenance and Growcom aims to establish and test T-Provenance's blockchain-based information integrity system across Manbulloo's supply chain in Katherine (NT) and Ayr (Qld) into Coles' distribution centres in Australia.

Minister for Resources and Northern Australia, Senator Matt Canavan said the project is all about using data to improve efficiency across the supply chain.

"T-Provenance has worked alongside Manbulloo staff, and their supply chain partners including ripeners, logistic providers, quality controllers, certification bodies and food retailer Coles, to test the technology and systems in a commercial setting.

"By providing a platform for transparent information sharing and data monitoring across the supply chain, data insights and data efficiencies are achievable," he said.

Senator for the Northern Territory, Dr Sam McMahon said the project was helping lead the way for innovation.

"Manbulloo can see where their fruit is across the supply chain in real-time and maintain proactive quality control and quality assurance protocol to address any issues immediately and complement what is already a best-in-industry approach.

"This project is shaping up to be a significant game-changer for the mango industry," she said.



Senator Matt Canavan with Manbulloo farm manager Jason Kirby.

T-Provenance founder Andrew Grant said the development team are building on the successes of the 2018-2019 mango season and are now scaling-up their platform to allow Manbulloo to lead the industry in quality control, quality assurance and optimal retailer acceptance rates.

"Collectively the system will increase overall fruit quality control, and ultimately reduce waste, increase product quality, increase the consumer eating experience and enable time and labour efficiencies to all in the supply chain.

"Manbulloo has shown leadership and demonstrated how investing in R&D and incorporating innovative solutions can transform a business and, potentially a whole industry," he said.

CRCNA CEO Jed Matz said the Smart Supply Chain project is a great example of how the CRCNA brings together industry leaders, SMEs and entrepreneurs and big businesses to deliver project outcomes with broad impact across Northern Australia.

"The impact of this project will extend beyond the mango industry to other agricultural products and supply chain systems, which may benefit from the efficiencies this blockchain platform has demonstrated," he said.

**For further details about this project head to [www.crcna.com.au](http://www.crcna.com.au).**



Internet of Things (IoT) sensors are placed in mango crates in packing sheds and travel with the fruit to the retailer—transmitting real-time data to the blockchain platform along the way. These sensors monitor things like temperature, humidity and time in transit.

# Using data to define best practice in the supply chain

This season Australian Mangoes has started tracking mango consignments to gain a better understanding of the conditions in which mangoes travel on their journey from the packhouse to the main markets across Australia.

This is year one of a three-year initiative which seeks to improve overall supply chain performance of the industry, knowing that poor postharvest temperature management and extended time in the supply chain are two of the most critical elements that negatively impact produce quality and consequently consumer demand, the aim of this activity is to establish a benchmark of industry performance against industry best practice.

“By constantly measuring how our supply chains perform we will be able to identify areas where we need to do further work to get the quality outcomes that our industry needs, which will grow confidence and demand for mangoes,” said Australian Mangoes CEO, Robert Gray.

“Over this season, it is the intent to track 200 journeys of mangoes from all regions of Australia to the major markets, to better understand temperature and dwell time. Escavox, a company specialising in fresh produce tracking, is helping in this process.

“By developing our pool of data, it will be possible to measure supply chain conditions against best practice standards. This will give us objective insights into supply chain performance and identify where issues exist, the scale of these issues and where further research and development (R&D) or infrastructure investment may be needed,” he said.

## WHAT THE DATA TELLS US SO FAR

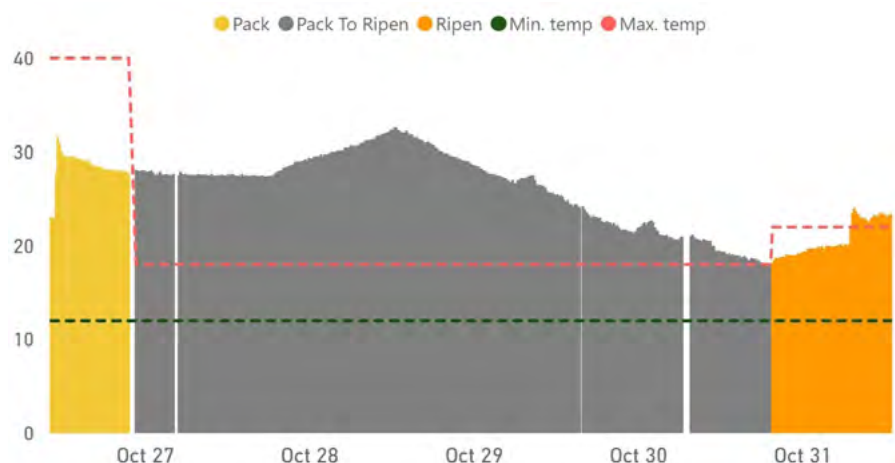
Results from the first 30 completed tracks have been collated. Nearly all tracks of these originated from the Northern Territory, whilst end destinations included Adelaide, Sydney, Melbourne and Perth.

In assessing the tracks, three key legs in the supply chain and associated temperatures were identified as the basis for assessment:

- At packhouse: minimum 12°C<sup>1</sup>
- Packhouse to ripener (via transport): 12°C-18°C
- At ripener (storage and ripening process): 12°C-22°C.

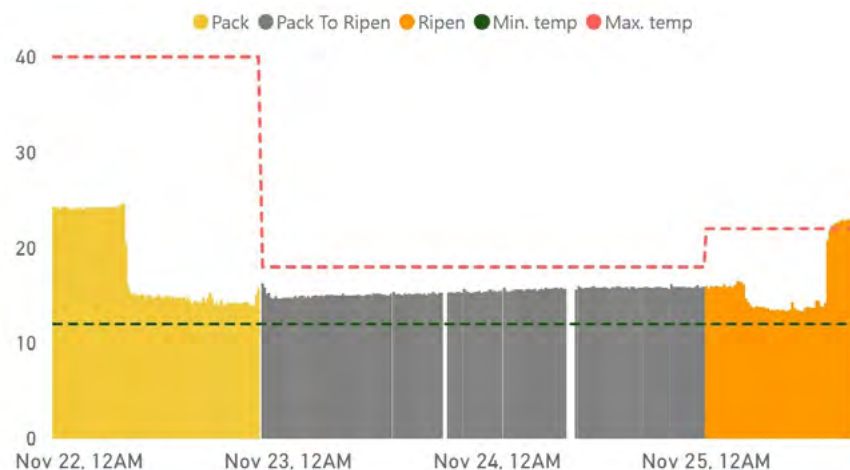
The data shows supply chain performance across the tracks ranged from very poor, where the product was not pre-cooled and travelled outside optimum conditions for the complete journey (see Graph 1), to tracks that were near ideal (see Graph 2).

### Northern Territory to Sydney Track #1



Graph 1: A track from the Northern Territory to Sydney (October 2019)

### Northern Territory to Sydney Track #2



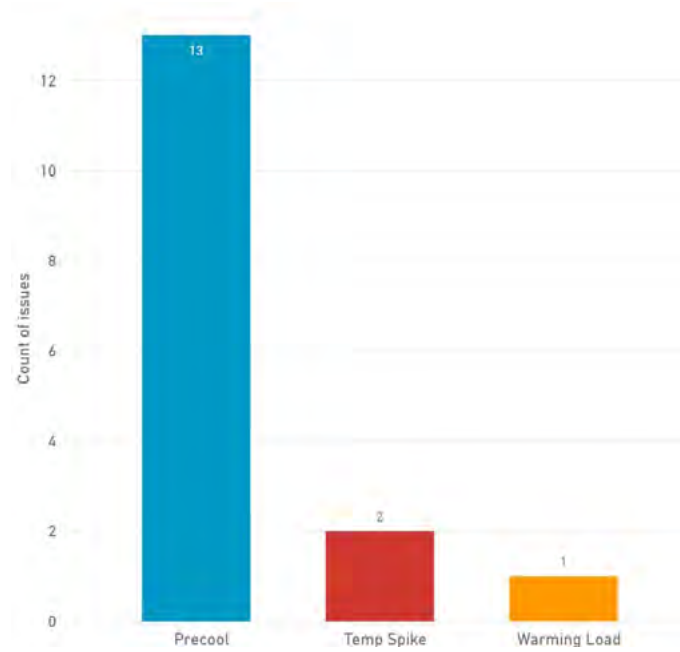
Graph 2: A track from the Northern Territory to Sydney (November 2019)

Of the 30 mango tracks (journeys) reported so far, more than half experienced temperature issues that were inconsistent with best practice. Most notably, the lack of pre-cooling of fruit was by far the greatest issue, with a third of all loads not precooled sufficiently (see Graph 3).

Continued page 19

<sup>1</sup> Note: In measuring performance of the supply chain, a maximum of 40°C is used as the upper limit for temperature in the packhouse leg of the supply chain. This recognises the practical limitations of the supply chain in that fruit is unavoidably exposed to ambient conditions at different times in the packhouse. After this season we will review our critical temperature bands and adjust if necessary.

## Tracks of Interest



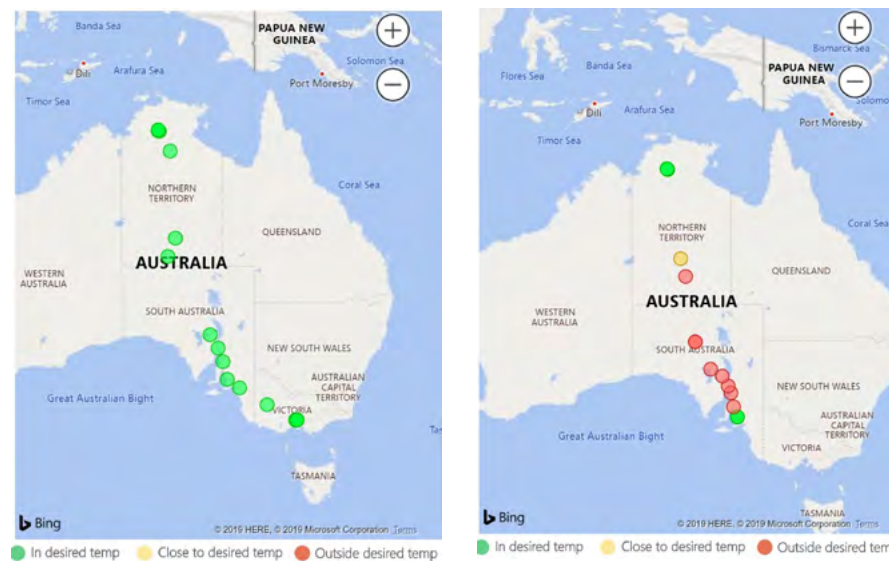
**Graph 3:** Incidence of temperature issues experienced by the 30 mango supply chain tracks reported.

Overall, of the 30 tracks analysed, in terms of temperature performance the following assessments have been made:

- 43% were very poor to poor (13 of 30 tracks)
- 23% were average (7 of 30 tracks)
- 33% were good to very good (10 of 30 tracks).

In addition to the full data sets for each track, Escavox also provided live data heat maps of each individual journey. Ideally all journeys should be represented by green dots, showing that produce is travelling in optimum conditions for the specific leg of the supply chain (see Image 1). However, in most cases, yellow and red dots on maps indicated less than ideal temperature conditions (Image 2).

## Heat maps of track performance



**Image 1 (Left) and 2 (Right):** Image 1 showing a track that is travelling at optimum conditions as indicated by green dots. Image 2 showing a track that has travelled at sub-optimal conditions, as indicated by yellow and green dots.



Escavox tracker

## WHERE TO FROM HERE

The next phase of this activity will track produce from Queensland and Western Australia. At the end of the season Australian Mangoes and Escavox will undertake a full review of all data collected and provide an update on overall industry supply chain performance as well as reporting the insights the data has provided.

Australian Mangoes will then consider how supply chain and other data might continue to be used to assist in improving the overall quality performance of the industry.

## ABOUT THE TRACKING PROCESS

The process of tracking products is simple. Australian Mangoes provides you with Escavox trackers that simply need to be included in pallets at the packhouse. Australian Mangoes will provide guidance on where to place trackers in the pallet and number of trackers per load, as well as stickers for identification of trays so trackers can be easily extracted after the ripening process.

The rest of the process is fully automated and Escavox provides the analytics so supply chain performance can be easily reviewed. Participating packers receive their own reports on the performance of their supply chain.

**If you would like to be involved in this initiative and are still packing, it's not too late, just contact the Australian Mangoes office to get involved on 07 3278 3755. There are procedures in place to protect your data, knowing that some data is commercially sensitive.**

**For further information on pre-cooling head to: <https://www.industry.mangoes.net.au/resource-collection/mango-ripening-manual>.**

*This activity is being undertaken as part of MG1700 Building Best Management Practice Capacity for the Australian Mango Industry which is being funded by Hort Innovation, using the mango industry research and development levy and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.*

# Fishing for flies

Flies are the second most important group of insect pollinators after bees (1). Indeed, some flies can deposit as much pollen as their honey-producing counterparts (2). Unfortunately, the majority of Australians are not aware of the contribution that flies make to food production. In fact, for many of us flies are considered to be nuisance pests at best.

“Managing flies for crop pollination” is a collaborative project with co-investment between Hort Innovation, several research organisations (Western Australia DPIRD, Western Sydney University, the University of New England, the University of Western Australia), industry partners (Seed Purity, Biological Services), the Avocado Research and Development Levy and the Australian Government. Our aim is to better understand the role that flies play in crop pollination in Australia with a view to managing flies for this purpose in the future.

There are many reasons why this is important. First, encouraging a variety of pollinators reduces the risk associated with relying on a single species (i.e. the European honey bee). In contrast to other parts of the world, honey bee populations in Australia remain in good health but a range of diseases and other threats could impact them in the future. In addition, diversifying our available pollinators may help alleviate pressures on growers who face a shortage of available honey bee hives, such as in carrot seed production. Flies have the potential to alleviate these problems and are cheap and easy to rear. Finally, honey bees are not good pollinators in all situations, and flies may actually be the best option in some cases.

On the fly project, we work with a variety of crops including avocado, blueberry, strawberry, carrot and, of course, mango. If one group of Australians already recognises the true value of flies, then it is probably mango growers. Mango growers have long recognised the importance of wild flies in mango pollination, an observation that has been backed up by scientific studies across the mango growing world (3–5). This observation has led to growers using some very imaginative techniques to promote flies in their orchards.

During a recent trip to survey mango pollinators in the Northern Territory (NT), we noticed that several growers baited their farms with roadkill, or even large quantities of fish offal in order to attract blowflies. On these farms, carrion was either haphazardly dropped around the orchard or placed into barrels suspended from trees. Anecdotal evidence suggests that such practices have been going on for at least 30 years. Despite the relatively widespread use of carrion baiting, to date we have no scientific proof that such techniques actually provide a benefit to growers. As part of “Managing flies for crop pollination”, myself and other staff at Western Sydney University are conducting trials to determine if the lengths that some growers are going to in order to bring flies into their orchards are worth the smell.

There are many thousands of species of fly in Australia, with some estimates suggesting as many as 30,000 species (6), most of which are unknown to science. Only a small proportion of these are blowflies that visit carrion. As such, the first step is to determine if the flies coming to the carrion are the same as those visiting the mango flowers. To test this, we set up fly bait stations on mango farms in Manbulloo, NT and Horseshow Lagoon, Queensland (QLD). Stations were baited with rotting fish or chicken carcasses. We then compared the flies visiting the mango flowers to those visiting the bait stations.

Many of the most common flower visitors in our flower surveys were non-blowfly species like hoverflies and the much lesser known *Stomorhina* fly. Hoverflies are typically large black and yellow flies that superficially resemble honeybees. *Stomorhina* is a common fly in mango, avocado and macadamia orchards in Australia. *Stomorhina* are generally small flies, about 1cm long, with striped eyes and a characteristic hunchback. However, neither *Stomorhina* nor hoverflies were attracted to carrion.

Importantly, blowflies like *Chrysomya* were attracted to both mango flowers and carrion. This makes sense given what we know about blowflies, which visit carrion to mate and lay eggs. Mating and egg laying are highly energetic activities for flies and mango nectar is likely to be a very attractive snack to a horny blowfly.

Our results show that the use of carrion does have the potential to increase the abundance of flower visitors in mango orchards. However, proving that carrion baiting works on the farm scale needs additional experiments. Critically, we need to understand if carrion baiting actually results in an increase in flower visitation, and, most importantly of all, fruit set or quality.

Alternatively, it may be better to mass rear blowflies, or even hoverflies, in purpose built facilities and then release them into mango orchards during flowering time. This may give growers better control over the species being used and the timing of their release. This is another option for growers that we are actively researching. Answering these questions is an important first step in better integrating flies into food production. Maybe then flies will receive the recognition they truly deserve.



Jon Finch deploying a pair of Barramundi in order to attract flies in a mango orchard in Manbulloo, NT.

Continued page 21



Common fly visitors of mango flowers. The blowfly *Chrysomya* sp. (left), a hoverfly *Mesembrius bengalensis* (middle) and the rhinid fly *Stomorhina* (right).

### Acknowledgements

We wish to thank the extremely helpful and accommodating staff and management at Manbulloo Ltd. for allowing us to work on their properties.

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# How does Pine Creek Mango Plantation organise traceability?

With a background in information technology, Northern Territory mango grower Wayne Quach sought to find an efficient way to not only improve his business model but streamline traceability.

So, he revisited an old prototype; an application for agriculture that provides an end-to-end tracking—and CropTracer was developed. He has been using the versatile supply chain management software throughout his own company, Pine Creek Mango Plantation and says it has already been extremely valuable for his bottom line.

“It has actually really, really helped us,” he said. “It is much better for planning; budget planning, projections and everything else like that, you can have it all on your desktop. We have used the system for a few years now. It works quite well for tracking biosecurity, work safety and employee records, my budget balance, and packaging—any user can keep track of the records. Before I had CropTracer, I always went over budget. Now I can keep track of my budget and control my profit and loss.”

**“Before I had CropTracer, I always went over budget. Now I can keep track of my budget and control my profit and loss.”**

- Wayne Quach, Northern Territory mango grower



CropTracer has launched in both Australia and the United States. Australia is the most important, as traceability is a requirement for growers to have in place to be able to sell to supermarkets and grocery stores. “I wanted to build something for the future of farm use, for keeping track in case of outbreaks and problems like breakdowns,” he said. “So, I ended up buying a mango farm, and fruit and vegetable farms to test the CropTracer system. It can track up to 14 sets of data or spreadsheets to keep the business running. We focused on developing a software prototype to increase grower margin, then we ventured into harvesting, the packhouse and other aspects of the business. After that we liaised with transportation companies, because the whole system has to look at the entire supply chain—so we had to build from A to Z. We are also tracking temperatures, from our facility all the way to the consumer.”

The CropTracer system is now being used by five companies, while Mr Quach has nine different plantations, which he keeps track of using this software, across different produce lines such as mangoes, rambutan, guava, star apple and cucumbers.

He adds that it is also useful for tracing the produce item back to where it originated. Data regarding time-stamps, used resources, storage temperature, license plates and more are meticulously kept and linked to barcodes and/or QR-codes.

“It is a full tracking system, you scan a barcode on a box or the label of the fruit, you know where it came from, back to exactly what tree.

On the other hand, if something happened 10-20 years from now, future farmers and anyone using the land, would have all the records of everything used on farm.”

Mr Quach believes that technology for agriculture could be in the top three industries in the world. Another benefit of CropTracer is that it can develop crop patterns and models, so growers can repeat what works and eliminate what does not.

Customers and supply chain partners have the ability to judge and give feedback for process improvements.

“Sometimes farmers can make the same mistakes for three or four years because something may no longer become a good tool for them,” Mr Quach said.

“(For example) new guidelines for climate change, or chemical use may come into effect. If you have a good system, you can keep track of all of that. If everyone uses this system, it is great for the country, if there are any outbreaks, the government can know exactly where to go and what truck numbers and what warehouses the fruit has been in.”

Pine Creek Mango Plantation has almost 100 hectares holding 6,200 mango trees, which produce the Pine Creek Kensington pride mango, and supplies to supermarket chain Woolworths.

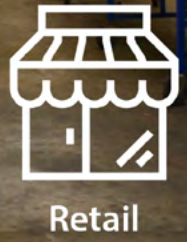
“They (Woolworths) are happy with our processes,” Mr Quach said. “We pack in coolrooms; from the harvest all the way to the end. We use a clean room instead of outdoors.”

CropTracer is available for other growers now too. The good thing about it is that the data in CropTracer is owned by the grower. CropTracer will not use the data without the permission of the growers.

**We are happy to demonstrate the platform to anyone who is interested, for more information please visit [www.croptracer.com](http://www.croptracer.com).**

# CropTracer

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# PEOPLE & EVENTS

## AMIA Chairman Ben Martin awarded Australian Young Farmer of the Year

We would like to congratulate Australian Mango Industry Association (AMIA) Chairman Ben Martin who was awarded ABC Rural and Kondinin Group 2019 Young Farmer of the Year in October.

The Australian Farmer of the Year Awards are designed to celebrate and applaud the outstanding achievements of those individuals and families making a significant contribution to Australian Agriculture<sup>1</sup>.

Ben said of his award win, "I am honoured to win this award and be recognised for the work I do on-farm and for the industry. I think it is hugely important to give back to both my community and the mango industry and I hope that through the work I do, including as Chairman of the AMIA Board, this ensures the industry continues to grow.

"I also need to thank my family for all the work they've put in to making the business what it is today."

**"This award is testament to Ben's hard work and dedication to the Australian mango industry. He should be extremely proud of what he has achieved."**

*- Robert Gray, AMIA CEO*

Ben's contribution and passion for the Australian mango industry is evident. As well as being integral to his family's business Marto's Mangoes, in Bowen, Queensland, Ben is a strong advocate for the industry's sustainability. Recently he attended a trade mission to Japan and South Korea with the Federal Minister for Agriculture, the Hon. Bridget McKenzie, where he participated in discussions about growing export markets. Having the opportunity to be involved was a highlight for Ben.

"Getting the opportunity to participate in discussions with ministers and trying to share the vision of the industry's potential for growth is extremely rewarding," said Ben.

AMIA CEO, Robert Gray, congratulated Ben on his award win, "This award is testament to Ben's hard work and dedication to the Australian mango industry. He should be extremely proud of what he has achieved."

For further information about Ben's win at the Australian Farmer of the Year Awards visit: <https://www.farmingahead.com.au/farm-office/news/1373583/future-focused-young-queensland-farmer-rewarded>.



*Ben and wife Ash-lei Martin. Credit Ben Martin.*



*Ben on farm. Credit Ash-lei Martin.*

<sup>1</sup> Source: <https://www.farmeroftheyear.com.au>.





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- Natural plant available silica for added soil and plant vitality
- Slow release nutrients for extended nutrient availability
- High carbon as the basis for soil health

**PELLETISED FOR CONTROLLED DISTRIBUTION**

# FOR SUPERIOR SOIL HEALTH ADD MICROBIOLOGY, CARBON AND SILICA

**Only available through your local rural supplier:**

We work in partnership through local distributors.

Local representation means prompt service by those who know you, your area and what it takes to keep you in business.

**Contact Queensland Organics for more information:**

Northern Rivers to Gympie  
 Riaan Breedt  
 Principal Agronomist  
 0437 124 600  
 riaanbreedt@qldorganics.com.au

[www.qldorganics.com.au](http://www.qldorganics.com.au)  
 Office: 07 3203 1379

Fraser Coast to Far N. Queensland  
 Geoff Brown  
 Territory Manager  
 0448 417 793  
 geoffreybrown@qldorganics.com.au

# Spotted on tour



# HYDRALADA®

- ✓ The choice of leading mango growers
- ✓ Proven record for reducing harvesting costs
- ✓ Maximise productivity by reducing labour units
- ✓ Lift heights - 5.40m | 6.40m | 8.00m

## Lifting your game.

### FINANCE OPTIONS AVAILABLE.

Spread the payment over five years and let the machine earn for you!

\*Terms and conditions apply



✓ [hydralada.com](http://hydralada.com) / [sales@hydralada.co.nz](mailto:sales@hydralada.co.nz)

☎ 1800 124 352

## HORTICULTURE

# TOTAL Ag & Fabrication

## Total Ag & Fabrication specialise in the manufacture, repair and service of Mango Picking Aids.



**We currently produce mango picking aids to suit the harvest of all mango varieties.** You can choose from current standard models or we can custom build a picking aid to suit your specific mango variety and location. We can build a machine that has the capacity for select pick, through to high volume strip picking. Whether you need to negotiate difficult terrain or need to harvest at night we can supply a made-to-order machine for you. Our main focus is to produce a picking aid that delivers maximum volume and zero fruit damage.

**During the harvest season we are committed to providing 24/7 technical support with fast response time.** Service schedules can be arranged and performed outside of your working hours in the season to ensure you have no down time in harvest.

**P: 0488 788 171 E: [info@totalagfab.com](mailto:info@totalagfab.com)**  [facebook.com/TotalAgFab](https://facebook.com/TotalAgFab)

**[www.totalagandfabrication.com](http://www.totalagandfabrication.com)** \*Can be delivered Australia wide

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**AUSTRALIAN MANGOES**<sup>®</sup>