The ORCHARDIST®

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HORTICULTURE NEW ZEALAND

# Covid-19 impact on kiwifruit industry

In this issue

NEW

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# Contents


**AUGUST 2020**

# What's going to be involved in growing New Zealand?

*If anyone had told me at Christmas that within a few months a tiny silent virus would bring the world to its knees and that six months later 15 million people would be infected and 600,000 dead, I would have thought they were doomsayers.*

By Barry O'Neil
President : Horticulture New Zealand

**While large numbers roll off our tongues very easily, when you stop to think about the magnitude of these numbers it is truly staggering!**

New Zealand did a fantastic job getting on top of the virus and absolutely squashing that curve, but then Kiwis started to realise the challenges that lay ahead, starting with a million of our residents and citizens visiting or living overseas, many of whom are wanting to come home. Our success beating Covid-19 was in no small part due to us working together as a team of five million, and we should be very proud of that, but we were also helped by being a tiny isolated nation at the bottom of the world. But being isolated is also potentially going to be one of our greatest challenges – how can we stay connected to the rest of the world when many other countries we trade and communicate with have not been so lucky in controlling Covid-19?

New Zealand must stay connected to the rest of the world to maintain its social and economic advantages – we export 80% of the food we produce, we are reliant on overseas skills and labour, overseas advanced technologies, vehicles and machinery, fuel, and so on. We are part of this world, and we can no longer can survive for long periods disconnected from our global context.

Resulting from a huge spend from the Covid stimulus and recovery package, every single Kiwi whether one year old or 100, will have a $40,000 debt that will have to be paid back. It's not fair for the country to burden our future generations with the $200 billion of public debt that has now been created.

We must use the Covid recovery investment and opportunity to drive an economic recovery that is focused on the food and fibre sector that will be more environmentally sustainable, and that is more connected to our communities with employment and support.

The United Kingdom has more or less the same land area as New Zealand but produces twice the amount of food that we do – nearly 60 million tonnes compared to us at just under 30 million tonnes. But in an environment where we are trying to increase value not volume, and where we are also taking bold steps to address our polluted waterways as well as climate change, how can we also increase our productivity?

Our twelve highest farmgate values created per hectare are actually from horticulture – different types of fruit and vegetable production are at the top, with dairy only coming in at thirteen, and beef and lamb the lowest value per hectare of all farming activity. But when we consider export values, dairy is still miles ahead with over $18 billion, sheep and beef at $10 billion, and horticulture comes in at just over $6 billion if we include wine. That is because pastoral farming utilises over 10 million hectares, whereas horticulture including viticulture only utilises around 150,000 hectares – think about the potential that exists here to convert over 1 million hectares of land suitable to horticulture that is currently being farmed pastorally.

Horticulture not only creates the highest land use economy and employment, but is also very much more environmentally sustainable compared to other sectors – and yes we are fortunate that we don't have issues like methane gasses, urine leaching, pasture pugging, or animal welfare challenges to deal with. Of the challenges we did or do have, significant progress has been and will continue to be made so that horticulture will be one of the earliest sectors to meet the government's carbon neutral conditions along with freshwater management outcomes.

But while horticulture has a major and leading part to play in our economic, social, and environmental recovery, that's not saying it's going to be easy, and the next few years are going to be a very challenging time for many of us.

> **But while horticulture has a major and leading part to play in our economic, social, and environmental recovery, that's not saying it's going to be easy**

Many sectors are currently struggling or will soon struggle to get products to market, especially if airfreight is involved, and consumers internationally with reduced incomes will be more pragmatic about what food is put into their supermarket trolley (but will hopefully still be prepared to pay premiums for natural, safe, great tasting fruit and veggies grown sustainably). Significant labour shortages will occur, even in a situation with record Kiwi unemployment, which will hit the sector hard. Tourism and hospitality with the associated food and beverage spend will for some time be just a fraction of pre-Covid levels, both in New Zealand and internationally. And on and on the reality of Covid recovery goes…!

We must face the hard questions of what we need to do to get through this – not avoiding what is right to do. It's great that our chief executives have started this by aligning their efforts to produce a recovery strategy for the horticulture sector, and it's very good to see the Ministry for Primary Industries and the government also supporting horticulture in the Fit for a Better World initiative.

We of course do not have all the solutions yet, but aligning our efforts, resources, and skills will be key as we face these big challenges. We would be doing our growers a huge disservice if the horticulture leadership groups did not work closely together to align their efforts. In so doing we need to rethink our current fragmented arrangements. Also, at times, there is a perception that Horticulture New Zealand is on one side and 21 product groups on the another – surely we can do better than this…!

In acknowledging there will be harder times ahead, the HortNZ board has cut back the budget and any new expenditure has been put on hold until we can get a better feel for where we are heading. A small part of this cut-back is directors of HortNZ taking a 20% reduction of their fees for six months, and our chief executive Mike Chapman has also reduced his salary, and my thanks to them for the leadership shown here.

Horticulture will grow through this, but only if we challenge ourselves hard as to what future success involves and then work together to achieve it. ●

# Covid-19 has changed the world

*The world has changed and probably forever.*

By Mike Chapman
Chief Executive : Horticulture New Zealand

**Before Covid-19 we lived in a global world where there were few restrictions on travel. There was labour mobility across the world and our integrated global supply chains operated without the restrictions we now face. Covid-19 has created two very significant challenges (among many others) for the horticulture industry: a lack of airfreight capacity and massive restrictions on seasonal worker mobility. The way forward, the solutions, are not easy to work out. These are new problems and they are subject to the ever changing Covid situation.**

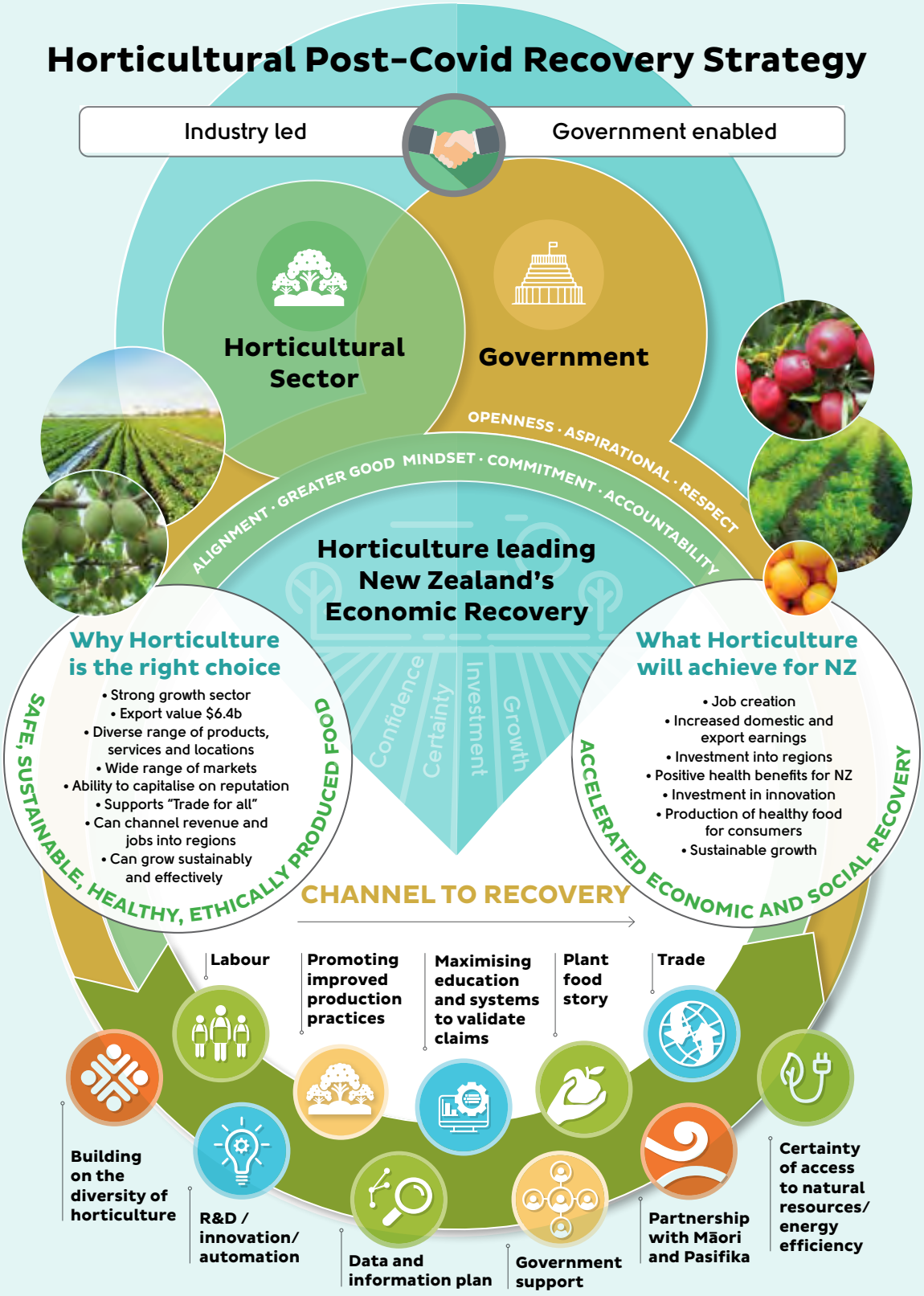
As we went into Covid lockdown, the New Zealand horticulture chief executives and business managers met daily with the Ministry for Primary Industries (MPI) to solve the multitude of problems and to work out the best way forward for horticulture. This worked well and heralded a new era of working with MPI. We worked as a team and not as separate organisations, one being the government and the other being our collective horticulture industry.

It was our MPI representative who recommended that we have a joint government and horticulture workshop to work out a Covid Recovery Strategy for Horticulture. In fast order this was developed and the Minister launched it on 16 July 2020. It has eleven workstreams that cover everything that makes horticulture a success – and everything that we need to keep making horticulture a success.

> “...It has eleven workstreams that cover everything that makes horticulture a success – and everything that we need to keep making horticulture a success

The founding principle is that for horticulture to lead in our country's Covid recovery there needs to be a new partnership developed with the government: *industry led, government enabled*. How we did business pre-Covid will not be enough. We cannot operate as separate entities. We need to operate together as one to develop the support and programmes needed for sustained growth, and most importantly for feeding New Zealand and the world fresh and healthy food. It is ***how*** we work together that will make the necessary difference. Our workshop identified the following principles to achieve this:


Workstream One is focused on labour. We have put together a team from industry, iwi and government with representatives from the Ministry of Business, Innovation and Employment (MBIE), Ministry of Social Development (MSD) and MPI. It has dual focus on both seasonal and permanent labour, and career development and attraction of New Zealanders to meet our labour needs. It links into our career progression manager network. See page 17 for a one-page explanation of those involved in this network and what they do. Through this workstream we are looking to expand and further resource this network. A further key part of this workstream, which is now fully underway, is how to meet the coming season's labour challenge for harvest and pruning.


Horticultural Post-Covid Recovery Strategy
Industry led
Government enabled
Horticultural Sector
Government
OPENNESS · ASPIRATIONAL · RESPECT
ALIGNMENT · GREATER GOOD MINDSET · COMMITMENT · ACCOUNTABILITY
Horticulture leading New Zealand's Economic Recovery
Confidence
Certainty
Investment
Growth
Why Horticulture is the right choice
• Strong growth sector
• Export value $6.4b
• Diverse range of products, services and locations
• Wide range of markets
• Ability to capitalise on reputation
• Supports "Trade for all"
• Can channel revenue and jobs into regions
• Can grow sustainably and effectively
SAFE, SUSTAINABLE, HEALTHY, ETHICALLY PRODUCED FOOD
What Horticulture will achieve for NZ
• Job creation
• Increased domestic and export earnings
• Investment into regions
• Positive health benefits for NZ
• Investment in innovation
• Production of healthy food for consumers
• Sustainable growth
ACCELERATED ECONOMIC AND SOCIAL RECOVERY
CHANNEL TO RECOVERY
Labour
Promoting improved production practices
Maximising education and systems to validate claims
Plant food story
Trade
Building on the diversity of horticulture
R&D / innovation/ automation
Data and information plan
Government support
Partnership with Māori and Pasifika
Certainty of access to natural resources/ energy efficiency

The ORCHARDIST

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> "that goes to the core of what inhibits the growth of horticulture: removing unnecessary regulatory and policy barriers

Workstream Six is focused on trade, and Workstream Seven on government support. These workstreams have MPI, New Zealand Trade and Enterprise (NZTE) and the Ministry of Foreign Affairs and Trade (MFAT) as members. The focus is on the most valuable Free Trade Agreements, removal of market access barriers and new trade and enterprise partnerships.

The trade workstream leads into the government workstream that brings together all the other workstreams, that goes to the core of what inhibits the growth of horticulture: removing unnecessary regulatory and policy barriers. This will not be easy but is a critical requirement as we go forward. It is only appropriate that we work to lessen the compliance workload.

**The eleven workstreams are:**

1. Labour (explained above).
2. Production systems covering economically and environmentally sustainable production, tools for growers, farm environment plans.
3. Data to support and validate industry claims.
4. The plant food story validating claims, consumer insight, provenance, role of healthy food post-Covid and a consistently supporting narrative.
5. Access to natural resources.
6. Trade (explained above).
7. Government support which also includes removing bottlenecks to access modern and alternative crop protection tools, funding and investment, prioritisation of market access, and better government – industry coordination.
8. Partnership with Māori and Pasifika, integrating Māori and Pasifika economies.
9. Data and information including data plans, scorecards and dashboards, economic modelling, apps and technology platforms, leverage of knowledge and information.
10. R&D and innovation aligning with and fast-tracking research entities, opportunities for innovation and technology, fitting with the Horticulture Automation Plan and Agri-Tech Transformation Plan, genetics and breeding, biosecurity, protecting IP.
11. Diversity, covering small vs large holdings, lifestyle vs business, culture and background, women in horticulture, succession.

We have collectively set ourselves the challenge to make a real contribution to New Zealand's Covid recovery and put in place the plan to do this.

The full Workshop Report is at **www.hortnz.co.nz** and see page 17 for our career progression manager network. ●

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# YOUR LEVY AT WORK

**INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD**

# Natural resources and environment

## Air

### NESAQ

Horticulture New Zealand is currently reviewing and preparing a submission on proposed changes to the National Environmental Standards for Air Quality (NESAQ). The NESAQ has been in place since 2004 and contains standards for the purpose of setting a minimum level of health protection. The NESAQ:

- includes ambient air quality standards for PM10 (particulate matter 10 micrometres or less in diameter), carbon monoxide, nitrogen dioxide, sulphur dioxide and ozone
- prohibits activities that discharge significant quantities of dioxins and other toxins into the air
- specifies standards for domestic wood burners.

It mostly affects the management of activities involving burning. It is being updated to include management of PM2.5 (to reflect better science about health impacts of fine particulates) and meet New Zealand's commitments under the Minamata Convention on Mercury (which entered into force in August 2017).

### Bay of Plenty Plan Change 13 (PC13)

Agrichemical rules in PC13 in the Bay of Plenty have recently become operative. HortNZ attended mediation late last year and the resolutions reached have now been signed off by the Court. HortNZ, in conjunction with New Zealand Kiwifruit Growers Incorporated (NZKGI), is preparing a summary of the rules for growers.

## Water

In May, HortNZ welcomed the government's decisions around freshwater, saying they had recognised the importance of horticulture.

"We applaud the government for the pragmatic approach it is taking to meeting the long-term freshwater quality improvements that we all want," said HortNZ chief executive, Mike Chapman.

"For many years, growers have been investing heavily in improving freshwater quality and reducing environmental impact by retiring land, putting in sediment ponds, and using precision irrigation and modern cultivation techniques.

"We feel that today's decisions acknowledge that when it comes to land, water and the environment, growers know how to achieve the outcomes that the government and consumers want, in New Zealand and across the world."

In July, amendments to the Resource Management Act (RMA) saw Freshwater Farm Plans, also known as Farm Environment Plans (FEPs) added to the RMA to achieve freshwater outcomes. *However, it is important to note that these changes do not yet apply.*

Freshwater Farm Plans will become mandatory once detail on how they will be administered is finalised via yet to be developed regulations. These regulations will include timeframes for certification and audit, criteria for the appointment of certifiers and auditors, any fees payable, and content requirements.

HortNZ will engage with Product Groups, Good Agricultural Practice (GAP) schemes and growers, and provide feedback into the development of the regulations.

Growers can create a Farm Environment Plan (FEP) as an extension to their existing GAP system. This option will be further developed to meet the new requirements in a similar way to how GLOBALG.A.P. and NZGAP were developed to meet Food Act requirements. The NZGAP Environment Management System (EMS) add-on already meets the requirements for audited FEPs in several regions, including official recognition in Canterbury.

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# Land

### Proposed exemptions for vegetable production in Pukekohe and Levin

Proposed exemptions in national freshwater policy for vegetable production in Pukekohe and Levin are being consulted on with iwi and hapū. We are expecting the new National Policy Statement for Freshwater Management (NPSFM) and National Environmental Statement for Freshwater Management (NESFM) to be have been gazetted in late July.

## Regional updates

### Waikato Regional Council Plan Change 1 (PC1)

HortNZ lodged an appeal on PC1 in early July, working closely with the Pukekohe Vegetable Growers Association and a grower sub-committee established 2016. In summary, the appeal is to ensure that commercial vegetable production can continue to operate, with some expansion, while still meeting requirements to improve and enhance water quality. And for the wider horticultural industry, the appeal ensures operation can continue through FEPs audited by GAP schemes.

The deadline for appeals is 14 August but you can only appeal if you submitted directly on the plan change, not through HortNZ. However, the RMA Section 274 / interested parties process is a chance to support or oppose appeals. Anyone who submitted can take part, or anyone who has a greater interest than the general public. The deadline for appeals by interested parties is 20 September.

### Waikato District Plan Review

HortNZ submitted on the review in October 2019. Hearings have been scheduled to take place across 2020 and into 2021. HortNZ has so far submitted evidence for eight hearings. Hearings on rural topics are scheduled for September 2020 and hearings on zoning are scheduled for early 2021. HortNZ will be submitting evidence in both instances, and is beginning to prepare for rural topic hearings.

### Hawke's Bay

Submissions on the Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchments plan change close on 14 August and HortNZ will be making a submission on behalf of local growers.

HortNZ is developing evidence for the Ngaruroro Water Conservation Order appeal hearing, which is planned for August/September.

### Horizons Plan Change 2 (PC2)

HortNZ made a submission on PC2 in October 2019. In preparation for the hearing in October 2020, HortNZ has been meeting with growers and attending pre-hearing meetings, and starting to pull together expert evidence to support our position that vegetable growing needs to be recognised and provided for by a fit-for-purpose consent pathway.

### Marlborough Environment Plan Appeal

HortNZ has submitted an appeal on the Proposed Marlborough Environment Plan (PMEP) decision. Our appeal covers the management of sensitive activities, water allocation as well as water quality. The next step for this process will be mediations – these are yet to be scheduled. A summary of the PMEP rules has been prepared and is available on our website.

### Environment Canterbury Plan Change 7 (PC7)

HortNZ has been working with experts to prepare evidence ahead of the hearing later this year.

### Otago Regional Council Plan Change 7 (PC7)

HortNZ has made a submission on the Otago Regional Council Water Permit Plan Change – PC7. This process been "called in" by the Minister for the Environment, meaning they are referred to the Environment Court for a decision, and as a result are currently being notified again. HortNZ will continue to be involved and represent grower interests.

### Central Otago District Council Plan Change 13 (PC13) appeal withdrawn

In late May, the developer appealing Central Otago District Council's PC13 decided to withdrawn their appeal (on the Council's decision to decline the plan change).

In June 2018, HortNZ filed a submission to protect the more than 200ha of summerfruit orchards and packhouses in the area, including 85% of New Zealand's cherry orchards.

PC13 was the developer's proposal to rezone 50ha of rural land outside Cromwell, to create a new urban area that could accommodate up to 900 dwellings. This new area would have bordered existing orchards as well as the Highlands Motorsport Park and Central Motor Speedway.

In total, 417 submissions were received on the plan change, and almost all were in opposition to the proposal. The hearing was held in Cromwell in June 2019, in front of a panel of independent hearing commissioners. HortNZ presented the case on behalf of growers. However, in February 2020, the developer appealed the Council's decision to decline the proposal.

# Farm Environment Plan update

*Freshwater Farm Plans, more commonly known as Farm Environment Plans, were passed as law in July, meaning that they are mandatory and enforceable. However, the details are yet to be worked out, and this will be done through the development of regulations.*

By Ailsa Robertson : Horticulture New Zealand

Some key details to be developed through the regulations include: which region, district, or part of New Zealand these requirements apply to; timeframes for implementation, certification, and audit; criteria for the appointment of certifiers and auditors; any fees payable; and further information and content requirements.

In our submission on behalf of growers, Horticulture New Zealand supported the government's intent to maintain and improve freshwater quality. We also stressed how achieving these outcomes will affect growers and what trade-offs will be required, and that the timeframes set for achieving outcomes must be realistic. New Zealand needs to ensure that it can grow enough fresh food to feed itself, and that food prices are reasonable, particularly as climate change begins to bite.

The focus needs to be on planned progressive improvement so we achieve outcomes that reflect values we have for freshwater and wider social, economic, environmental and cultural values.

The new regulation is expected to be developed over the next six to twelve months. HortNZ will engage with Product Groups, Good Agricultural Practice (GAP) schemes and growers, to provide input into the development of the regulations. The process and timing of industry inputs is not yet known.

## What does this mean for growers?

The legislation is clear. All horticultural land uses greater than or equal to 5ha will require a Farm Environment Plan (FEP). A 20ha threshold applies for other sectors or a combination of land uses.

If you grow in a region that has a requirement for a Farm Environment Plan through the regional plan, operative or proposed, these regional requirements still apply. It is unknown if or how the new regulations will impact on existing rules and requirements.

If in doubt, start your Farm Environment Plan now. The NZGAP Environmental Management System (EMS) add-on provides a horticulture specific Farm Environment Plan template benchmarked to regional council requirements. The EMS is available as an add-on for all NZGAP, NZGAP-GLOBALG.A.P. Equivalent, and GLOBALG.A.P. certified growers.

## What support is available?

Engage with your Product Groups, grower associations, and HortNZ and ask how you can get support to develop your Farm Environment Plan.

Sign up to an FEP workshop and encourage your neighbours to attend.

Workshops are being planned for 2020–21 across the regions. The workshops will step growers through the process to build a Farm Environment Plan using the NZGAP EMS system, from registration to audit. In the workshops we showcase real life examples of growers who have already developed an audited FEP and adopted good and best management practices. It is also an opportunity to meet consultants and advisors who can help you develop your plan.

The first workshops will be held in Auckland and Waikato in August. Details of workshops and locations will be notified through the HortNZ and Product Group newsletters and websites. Future regions include Canterbury, Gisborne and Hawke's Bay. Other regions will be announced in time.

## What else is coming?

Climate change emissions are also on the farm planning horizon. By 2025, all farms must have a written plan in place to measure and manage their emissions. For horticulture growers this means reporting your annual nitrogen fertiliser use, and methane emissions if you have animals.

Guidance and tools for growers to meet these requirements are still being developed through He Waka Eke Noa, the primary sector commitment on climate action. HortNZ and Product Groups will be involved in shaping this guidance, and we will continue to communicate with growers as guidance becomes live. ●

# GAP, safety and technology

By Damien Farrelly : Horticulture New Zealand

*Good Agricultural Practice (GAP) audits were considered an essential service under Covid-19 lockdown to ensure the continued assurance of safe and sustainable production of fruit and vegetables so GAP schemes, auditors and growers had to adapt quickly to the new operating environment.*

## So, what did lockdown mean for GAP?

**Temporary rules during lockdown:** Both NZGAP and GLOBALG.A.P. established temporary rules to enable the extension of audits and certificates by up to six months given the safety risks and disruption that Covid-19 presented. GAP schemes had to navigate complicated and sometimes contradictory requirements during lockdown – primarily NZ Food Safety prohibiting on-site Food Act verifications, while the Global Food Safety Initiative (GFSI) did not recognise remote audits. This put growers, GAP schemes, and auditors between a rock and a hard place. However a combination of extensions, off-site audits, and remote auditing delivered the desired outcomes in a safe, acceptable and credible manner.

**Certification processes:** Many NZGAP certification processes and systems were already delivered using technology, but the swift move to Level 4 lockdown meant a complete move online was required and attained within days. This allowed grower registrations and certifications to be processed remotely, so they could continue to supply their solitary supermarket option during Level 4. The result is a lasting streamlined registration and renewal process which is now completely online, electronic delivery of certificates via email, and automation of many bulk administrative processes. Growers now have both electronic and paper options going forward.

**Remote Audits:** Both NZGAP and GLOBALG.A.P. developed and launched temporary rules and processes for off-site audits (record checks) and remote audits (interview and visual evidence of implementation). As GFSI do not yet accept remote audits, the 'GLOBALG.A.P. Remote' option was not available to New Zealand growers, however some NZGAP audits were completed remotely during lockdown where requested by growers. Papakura based tomato grower Anthony Tringham was the first grower to be remotely audited. He said the process went incredibly smoothly: "The auditor interview was quicker than a regular audit while covering all the necessary checks. What would typically be a three-hour face-to-face meeting took less than an hour virtually." Plus, in the context of Covid-19, there's a massive reduction in risk by not having someone visit.

**Looking to the future:** NZGAP's focus has moved back to pre-Covid-19 priorities including implementation of the Social Practice add-on, Contractor Standard, and Environment Management System (EMS) add-on.

We are continuing to build a modular assurance system that will minimise compliance costs, focus on outcomes, and deliver value for all growers. Covid-19 has fast tracked the development of a credible yet affordable entry level certification for groups of small growers, similar to the existing grower group model. A pilot has been successful so we want to make this option available to more growers over the coming months.

NZGAP and GLOBALG.A.P. are also looking to the future of certification and assurance using technology, including the long-term adoption of off-site and remote audit technologies. However, while there is an on-site audit time saving for growers, the overall time (and therefore cost) of audits is not likely to be impacted significantly. We are also mindful that not everyone has the technology, broadband or inclination for online systems so we will continue to provide paper options.

Technology also has an important role to play in supporting decision making, identifying issues, observing trends, demonstrating progress, and improving trust in grower practices and the GAP system as a whole and GLOBALG.A.P., NZGAP and industry stakeholders will continue to work on the adoption of technology (where sensible). The aim will be to integrate (rather than duplicate) tools and systems, similar to the way GAP schemes integrate multiple market and regulatory requirements into one accessible system for growers.

# Different rules create concern

*Independent fruit and vegetable retailers found regulations confusing during the Level 4 lockdown with some able to remain trading as supermarkets were, and others not.*

By Glenys Christian

**Auckland greengrocer** Jack Lum was forced to close its doors in late March despite making preparations to trade as an essential service and being able to do so for two days.

Mike Lum, the son of the owner, who has worked full-time in the Remuera business for the last 37 years, said they had expected a police visit and believed they had the necessary social distancing and hygiene practices in place.

Initially they were told they were doing everything right, but that all changed two days later when on a second visit the store was told to close immediately.

"We had to get rid of everything," he says.

There was no talk of independent retailers banding together despite Jack Lum's gaining the support of local Member of Parliament, ACT leader, David Seymour. He said it was a matter of equity with the government failing to give clear directions or rules.

> "We don't have a lot of clout and our margins are very fine," Mike says

Stock which was on hand at the store was wholesaled at a substantial discount to another independent fruit and vegetable retailer who was able to remain open and the shop closed its doors. The business received the first government subsidy and so was able to pay staff over the 12-week period for which it lasted. That was topped up once the eligibility period finished and now after reopening on May 23 some of the ten staff are taking holidays or working minimal hours, while still grateful to be employed.

Business is nowhere near normal with sales volumes still estimated at 30% down.

"We're not doing the turnover," Mike says.

"And we don't know what the outlook is. The Saturday we reopened we expected it would be like a long weekend, but it wasn't."

While some customers said they missed the shop being open, he believes a number have switched to online purchasing of fruit and vegetables or delivery of meal kits.

"We can weather just about anything, but we don't want to be banging our heads against a brick wall," he adds.

His hope is that with warmer spring weather people will be entertaining at home more, and fruit and vegetable sales volumes will increase substantially.

Horticulture™ New Zealand

## Horticulture New Zealand Notice of the 15th Annual General Meeting

**Friday 25 September 2020 at 12.30pm (Zoom available)**
**Pukekohe Indian Centre, Pukekohe**

### Business

1 Welcome and Apologies
2 Voting and Proxies
3 Obituaries
4 Approve Minutes of the 14th AGM
5 President's and Chief Executive's Report on HortNZ's Activities
6 Approve Audited Financial Statements for year ended 31 March 2020
7 Levy Rate
8 Director Remuneration
9 Approve 2020/21 Budget
10 Approve Auditors for 2020/21
11 Results of 2020 Director Elections and announcement of Appointed Director
12 Notices of Motion
13 General Business

### Call for Notices of Motion

Any Board Member, Affiliated Organisation or Active Grower Member wishing to have a matter considered at the AGM must give notice in writing to the Chief Executive of Horticulture New Zealand of the notice of motion no later than Friday, 7 August 2020 at 5.00pm. Notices should include the wording of the motion to be voted on and up to one A4 page of explanatory notes. Notices of motions will be listed on HortNZ's website **www.hortnz.co.nz** on 14 August 2020 and will feature in the HortNZ magazines (September issue).

**Fruit World**, which has been trading for almost 20 years, has 23 franchised stores from Silverdale, north of Auckland, down to Hamilton. While some specialise in fresh produce, others also stock bread and milk and a number of grocery lines, which allowed them to stay open during Level 4 lockdown. Financial controller, Lindsay Hotham, says the distinction drawn between supermarkets and independent fruit and vegetable retailers meant the company needed to have "all sorts of discussions" with the Ministry for Primary Industries (MPI) at the beginning of the Level 4 lockdown.

"There was quite a lot of confusion," he says.

The police had tried to close down some of their franchises, but phone calls to MPI resulted in those which sold milk, bread and grocery items being able to stay open.

"That caused quite a lot of concern."

"Once they were able to operate, some staff didn't want to work so those stores were unable to open. And some staff wanted to wear masks which in some instances managers were not keen on, fearing this might scare off customers."

"Things came right in the end, but it was a concern at the time."

One store had its cooler break down whilst it was forced to stay shut because it operates out of a shopping centre which was completely closed, with the carpark padlocked off. While under normal conditions that stock would be able to be sold, the matter had to be settled by way of an insurance claim by the franchise owner.

Lesley Hotham says the result of the lockdown period was that some stores reported higher sales and some lower. But Level 4 restrictions were generally positive as with restaurants closed, customers were buying more fruit and vegetables to prepare meals at home. And while they would usually travel to dine at restaurants in different parts of Auckland, over lockdown they shopped locally.

However, he believes the landscape might have changed when it comes to consumers' buying habits, as those who had relied on online purchasing might not return to shopping in store as they had previously.


## HortNZ plea to government

**Horticulture New Zealand requested recognition of independent fruit and vegetable retailers as essential services at the end of the first week of Level 4 lockdown on March 31.**

In its submission to the Ministry of Business, Innovation and Employment (MBIE) it said independent fresh fruit and vegetable retailers make up around 20% of the market nationally,which rises to 60% percent in Auckland. It was critical that they were able to operate in order to maintain an adequate supply of affordable fresh fruit and vegetables to all New Zealanders. It was aware even at that early stage of supermarkets not being able to keep up with consumer demand and some overpricing.

"With restaurants and takeaways closed, which have a 26% share in food consumption, supermarkets will need to increase supply by 1.69 times in order to meet demand."

HortNZ also argued that the closure of independent fruit and vegetable retailers was adversely affecting lower income households and ethnic communities as they often sold second or third grade produce that didn't meet supermarket specifications, and so were lower priced. Both major supermarket chains said they weren't intending to relax standards to sell lower grade produce, meaning a higher cost to customers who needed to shop there.

The government response was that the more businesses which opened the harder it would be to contain the spread of Covid-19. Fruit and vegetable stores were deemed as non-essential under Level 4 as the products they sold could be bought from supermarkets.

*Steve Thomas (left) with kiwifruit supervisor Aaron Finlay*

# Attracting the next generation

*The one thing that can't be taught to employees is attitude, so it's the main criterion for selecting staff for training at Thomas Brothers Orchard near Motueka.*

By Anne Hardie

The intergenerational orchard lies at the base of the Takaka Hill where Thomas Brothers runs a diverse operation encompassing 70ha of kiwifruit, 70ha of apples, 2ha of cherries, packhouses and coolstores. Through the apple and kiwifruit harvests they employ up to 330 people and even in winter there's 120 staff including permanent, semi-permanent and RSE (Recognised Seasonal Employer) scheme workers.

To date the orchard has sourced staff, especially for seasonal work, from those who turn up at the gate or have heard through word of mouth that jobs are available. Long-term staff are often picked up from the intakes around thinning each year, fresh to the industry and looking for a basic job in between long-term jobs. Those that stay are the ones that begin taking an interest in the work and asking questions. If they have the right attitude, they will be given permanent roles and get in-house training.

It's generally worked and staff turnover is low, but Steve Thomas has always wanted to work with schools more to attract school leavers into the industry as a career. He has visited the local high school in the past to talk to horticulture classes about the industry, and though there has been interest, more was needed to link their aspirations and needs with a clear career pathway.

Now Horticulture New Zealand has career progression managers in the regions to do just that, and Steve says that provides the missing link between schools and industry.

"It's necessary with the growth in the industry, and without those positions in place there will be issues with the ageing workforce."

In the Nelson-Tasman region, career progression manager Robyn Patterson says schools have been overwhelmingly positive about connecting with the industry now there are designated coordinators, and they want to include external learning in their courses. She says schools and students are starting to realise that the horticulture industry is not just about picking apples and is not just a subject for easy credits at school. It offers a multitude of career opportunities that can revolve around technology, marketing and research as well as trade jobs. Connecting with the schools and students, coordinators can then point them in the direction of the GoHorticulture website which provides information about careers and training as well as profiles of young people working in horticulture and jobs on offer.

> **It offers a multitude of career opportunities that can revolve around technology, marketing and research as well as trade jobs**

On the orchard, Steve hopes it leads to more young people seeking a career, knowing they can join the apprenticeship programme and get in-house training to help them progress up the career ladder.

"Staff are the absolute critical factor and your key staff need to be trained and trustworthy," he says. "It's attitude we look for from the beginning because it's the one thing that can't be taught."

Those with the right attitude are encouraged into the apprenticeship programme and further in-house training into roles in quality control and as orchard supervisors. This year they have five staff enrolled with the Primary ITO horticulture apprenticeship programme. The business pays students for the time they spend at class which is a couple of hours per month, plus half the course fee, with the remainder paid once the student passes the course.

Steve says the programme prompts apprentices to ask questions about the orchards, such as about soil pH (acidity/alkalinity) or biocontrols, and that not only improves the apprentice's knowledge but also gets a discussion going that others can learn from as well.

"It means there's more brains working on the one goal. And I learn too."

Most of their supervisors on the apples and kiwifruit orchards have been through the apprenticeship programme or had some form of training, and Steve says they are finding the need for more in-house training as the business and industry continue to evolve.

"Five or six years ago I would supervise the kiwifruit, and now we've got two supervisors focused solely on quality, and the same thing is happening in the apple division and around the packhouse."

Last year they instigated a day course for their supervisors before thinning to go over changes in technology and how to get the best out of their staff.

"We'd usually done that on the wing, but this time we designated a day for eight to ten in a group and that worked well."

Though they have a low staff turnover, Steve says it is critical to do the work now to attract the next generation into the industry with its ageing workforce. For that reason, the business will be staying connected with the school initiative to provide real experiences with horticulture to encourage students to view it as a potential career.

# GoHorticulture internship programme grows new industry talent

*GoHorticulture, a horticulture industry initiative to promote careers in horticulture, is expanding its internship programme to develop the next crop of aspiring industry leaders.*

By Hugh Chesterman : Horticulture New Zealand

The successful pilot internship programme in Northland last summer set the bar high for this year's nationwide programme. The network of horticulture industry career progression managers is recruiting employers and students for this year's programme across major growing regions from Northland to Central Otago.

The Northland internship programme proved popular with both employers and students. Todd Jackson, general manager of Orangewood Ltd, says he wouldn't hesitate to recommend the internship programme to other businesses. "If you want to take on someone who is incredibly enthusiastic and smart, then I would highly recommend this," Todd says.

"The calibre of students in the programme was phenomenal, we couldn't have wished for better. We were stoked with how it went and we want to take on two interns this year.

"Before it started, we were a bit nervous about how it would work out. Talking to other businesses who took part, we found the calibre of students to be really top notch; the whole experience to be really great.

"It wasn't just us that enjoyed the experience though, but the students had a great time also. We were able to give Marcia a wide range of tasks. She did a bit of everything from setting up a seasonal logistics plan, calculating crop estimates and working with the lab team, as well as doing some hands-on thinning and packing.

Marcia Adams (above right), a second-year Bachelor of Agribusiness Food Marketing student, says the internship with Orangewood was an incredible opportunity.

"I enjoyed the internship a lot. It was such a great opportunity to learn about what it's like on an orchard – and to travel too!" she says.

> "It was such a great opportunity to learn about what it's like on an orchard – and to travel too!

"I would definitely recommend the GoHorticulture internship programme to others as you can learn so much from it. It would have been difficult to intern with a company like Orangewood without the programme.

"Orangewood was really great. I was able to learn and worked on all parts of the orchard and business side of things. As well as learning about the processes, I was able to understand why they were doing things and see the final outcome.

"Coming from a South Island sheep and beef farm, it was a great opportunity to see what the horticulture industry is like and learn what goes on behind the scenes on an orchard."

If you or your business are enthusiastic about showcasing your industry and supporting the future of horticulture, there are limited places remaining to register. Register your interest at: **https://gohorticulture.co.nz/gohort-employer-registration/**

# Horticulture Career Progression Managers Te Ara Mahi

*A dedicated team on the ground across New Zealand connecting workers with employers in the horticulture sector.*

## WHO WE ARE

A network of six managers working across New Zealand to increase the number of people pursuing careers in horticulture, so the industry can continue to grow and prosper.


## HOW WE WORK

Our chief role is to link work ready people with horticulture employers, by acting as the interface between people, our industry, schools and tertiary education and training providers, and government agencies.

**We promote horticulture careers** by getting young people at secondary school or people already in the workforce to see potential in our diverse and vibrant industry.

**We help young people decide** on the training that is right for them and work out their training pathway.

**We help young people find** the right employer for them – employers who can offer on-job training and career mentoring.

**We work with employers**, helping them anticipate and meet skill needs, and provide them with work ready people.

**We work with schools and tertiary education and training providers** so that they meet our industry's needs by staying up to date with requirements.

## WHAT WE WILL ACHIEVE

**The right people for the right job – a work force with the right training and attitude, advancing their horticulture careers and our industry.**

**To contact a Career Progression Manager, please email: GoHorticulture@hortnz.co.nz**

**www.gohorticulture.co.nz**

The Career Progression Manager network is supported with funding from the Government's Provincial Growth Fund and the New Zealand Fruitgrowers Charitable Trust.

# Women in Horticulture – Krista Manuel

*Krista Manuel, who really has been in the horticultural industry all her life, understands that no two seasons are the same, but nothing could prepare her, nor the industry, for the challenges of harvest 2020.*

By Elaine Fisher

**Covid-19 didn't bring Kaiaponi Farms' harvest teams and packhouse to a halt, as it did so many other businesses, but the virus threat did bring changes to procedures, which were redesigned to keep staff safe.**

"We are classed as an essential business and industry so picking and packing of apples, feijoas and citrus continued but we made changes to the way people work and the schedule and procedures for taking breaks to reduce the risk of spreading the virus," says Krista who is technical product manager at Kaiaponi Farms' packhouse in Gisborne and a member of Women in Horticulture.

Kaiaponi, like others in the horticultural industry, already had food safety and hygiene measures in place, so stepping those up a notch was well understood and accepted by staff, she says. "Everyone is committed to keeping each other safe."

*Krista Manuel is technical product manager at Kaiaponi Farms' packhouse in Gisborne and a member of Women in Horticulture*

Measures included having just one person per packing lane, setting up small fruit lanes next to large fruit lanes so that the speed of delivery of fruit meant one person could manage the volume without having to call for help, and ensuring workers remained two metres apart.

"We opened an additional room for breaks so people could spread out, and staggered break times between different packing lines. Our staff in the packhouse are mostly local people and those picking fruit are generally locals, with support from Recognised Seasonal Employer (RSE) scheme workers. There are very few backpackers working at all this season."

By late March the packhouse was handling Jazz apples and about to start the Envy season, along with feijoas and citrus. This followed the earlier successful harvest and export of Royal Gala.

"This is one of our better years for fruit taste, because of the hot summer. All the fruit, including apple, citrus and feijoa tastes amazing with higher sugar levels. Cosmetic fruit finish is also excellent."

The T&G club variety Envy performs very well in the Gisborne district, which is considered one of the best, if not the best growing region for the apple. Envy is well suited to Gisborne's growing climate and has been a profitable apple variety in terms of productivity, with a mature orchard producing over 100 tonnes to the hectare.

Exports of all fruit have continued largely uninterrupted by Covid-19 and Krista thinks demand both nationally and internationally for great tasting, healthy fresh fruit should increase as people look to improve their immunity in the face of the virus.

Krista was born the year before her father David planted the first fruit trees on the family's Gisborne orchard in 1989. "So I grew up with the orchard." After leaving school Krista gained a certificate in horticulture at polytechnic and then worked for her father, managing the orchard and studying for an advanced Level 4 horticultural qualification from Primary ITO.

When the orchard was sold, she worked for Kaiaponi Farms before heading off for an OE in England. "I worked as a live-in carer, and the experience convinced me that what I really wanted to do was return to New Zealand and the horticultural industry."

Back in the country she re-joined Kaiaponi as quality controller in the orchards before running the twilight shift in the packhouse.

"I then had the chance to work with an amazing piece of machinery – the Compac-Spectrim defect sorter-sizer." The machine checks for blemishes in apples by taking 300 images of each apple which passes through it.

"With this machine we are able to ensure we do not over or under grade fruit, and that every piece of fruit which meets the quality standards can be packed. It has improved our pack consistency regardless of the quality inwards."

It's this kind of technology, and the hi-tech advances on the horizon for the industry, which are among the reasons Krista believes young people, both men and women, should consider careers in horticulture.

"There are so many exciting jobs already in the industry and more to come. We need more young people in the industry to ensure its future. It's not just about picking and packing, although for those who love the outdoors, orchard work is great."

> "We need more young people in the industry to ensure its future

Encouraging more people into the industry is among the reasons Krista assists her boss Scott Wilson, general manager of Kaiaponi Farms, in organising the annual Gisborne Young Grower of the Year competition.

"It's a great way to test your skills and to find out what you don't know. It also helps promote horticulture as a career," says Krista, who tested herself by entering the inaugural event in 2018. "Unfortunately the 2020 event has been cancelled due to the uncertainly around the Covid-19 lockdown status."

Despite her (relatively short) lifetime involvement with fruitgrowing, its appeal hasn't diminished for Krista. "I love springtime and seeing the trees come into blossom, the leaves grow and then fruit form, ready for harvest in autumn."

To keep up to date on Women in Horticulture news and activities, join our membership database by emailing **info@women-in-hort.nz**. We welcome everyone in New Zealand horticulture who is interested in this exciting initiative.

# Brown marmorated stink bug interceptions down

*The exotic brown marmorated stink bug (BMSB) is a hitchhiker pest that poses a serious threat to many horticultural crops in New Zealand.*

By Anna Rathé

**BMSB likes to overwinter in confined, dark spaces such as under tree bark, in buildings, vehicles, stacks of cardboard – almost anywhere! This means it can inadvertently be transported to new countries with a wide variety of imported goods and makes risk profiling very difficult. There have been significant efforts to keep BMSB out of New Zealand, which have proven successful to date.**

The last stink bug season (September 2019 to April 2020) saw a marked decrease in interceptions of live BMSB, bucking the trend seen in previous years (see Figure 1). There are a range of factors that are likely to have contributed to the successful season:

## Strict biosecurity requirements for imported cargo

Biosecurity New Zealand have introduced mandatory offshore treatment requirements to ensure high-risk goods from countries with established BMSB populations arrive clean. The import rules target vehicles, machinery, and parts from 33 identified risk countries, and all sea containers from Italy during the stink bug season. Biosecurity New Zealand approved systems for new and used vehicles from Japan have also been successful in reducing BMSB finds via the imported vehicles pathway. Quick and decisive responses to high risk BMSB vessels and cargo have meant that New Zealand shipping, importer and logistics industries take new requirements very seriously.

**1 Live BMSB intercepted at the New Zealand border**

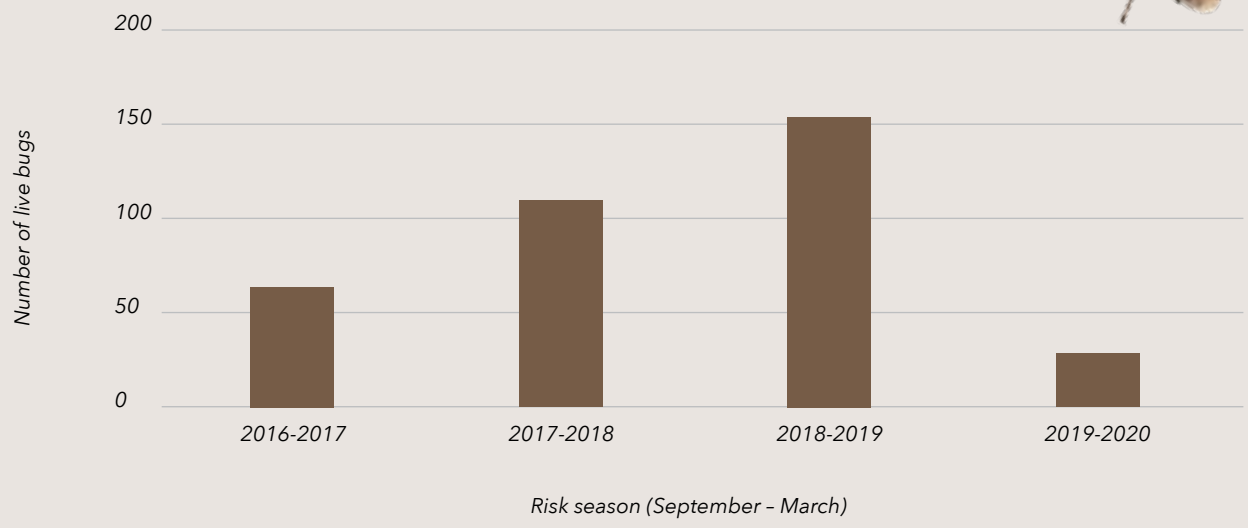
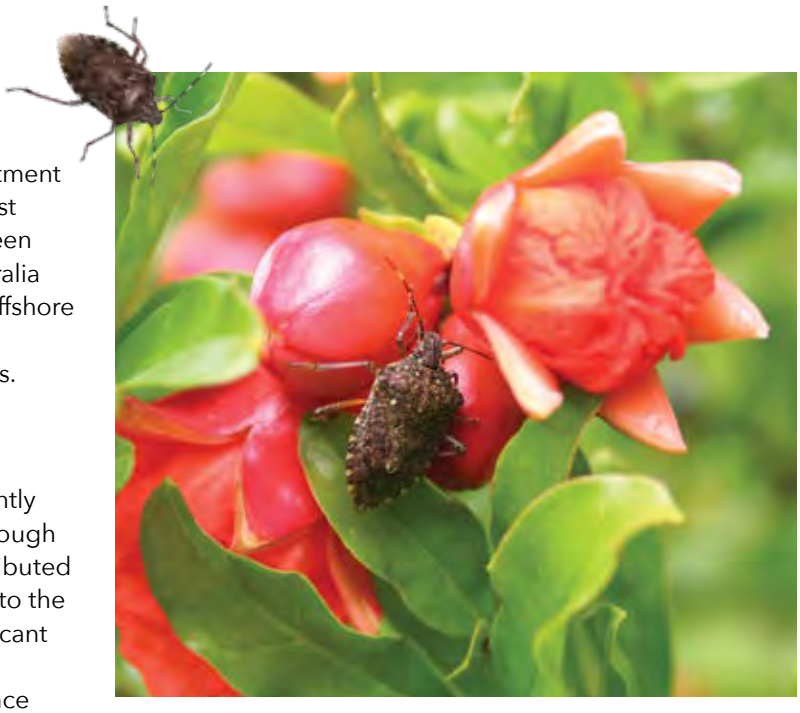



*Figure 1: Risk season interceptions of live BMSB at the New Zealand border over the past four years*



## Partnership with Australia

Biosecurity New Zealand has worked closely with Australian officials to develop the offshore BMSB treatment programme over recent years. The scheme aligns most offshore requirements and treatment protocols between both countries for targeted BMSB commodities. Australia and New Zealand also jointly undertook auditing of offshore treatment providers throughout the season to ensure overseas-based facilities met biosecurity requirements.

## Partnership between Biosecurity New Zealand and industry

In New Zealand, the BMSB awareness campaign (jointly funded by industry and Biosecurity New Zealand through the Government Industry Agreement) has also contributed to a successful season with a record number of calls to the pest hotline, a 29% increase on web visits and significant media reach. Industry and Biosecurity New Zealand have also cost-shared a post-border BMSB surveillance programme which was successfully piloted during the 2018–19 season and implemented again last season.

## Global trends

It is also important to consider what is happening with BMSB populations overseas. Anecdotal feedback indicates lower populations of BMSB in parts of the United States, which could have contributed to the lower numbers. It remains uncertain whether this is a seasonal or temporary change. Conversely reports from Europe indicated increased numbers of overwintering BMSB were likely as the summer heatwave will have provided optimal temperatures for multiple generations across wider areas.

## Looking to next season

Despite the promising results from the 2019–20 risk season, even tougher rules will be introduced next season to keep ahead of the threat. Biosecurity New Zealand is looking at adding three new countries to the list of those requiring special measures to send vehicles, machinery, and parts to New Zealand and they are also consulting with industry on plans to extend the current treatment requirements for sea containers from Italy. The Brown Marmorated Stink Bug Council under the Government Industry Agreement (GIA) also has a programme of work underway to ensure New Zealand is collectively prepared to manage the risk posed by BMSB.

# YOUR INDUSTRY

## ACROSS THE SECTOR — ACROSS THE COUNTRY

*Left: Russell Borman and Roxy. For Russell, his orchard is one big garden and an endless source of delight, whatever the season.*
*Above: Up to 96% of Russell Borman's fruit qualifies as Tag1.*

# Citrus grower — Russell Borman

*There was a time when the sweet scent of citrus flowers wafted across almost all Bay of Plenty orchards, and each August, Tauranga celebrated the harvest of the fruit with a street parade and the crowning of an Orange Queen.*

By Elaine Fisher

**Today it's kiwifruit which dominate the region's horticultural landscape. However, a few orchardists continue to produce citrus fruit, and among them is Russell Borman who grew up with the industry and well remembers the float parades and citrus queens of the 1960s and 1970s.**

The son of John and Carol Borman, Russell was born while the couple lived in Belk Road, Tauranga, where John first managed and later bought what was at the time, one of the largest citrus orchards in New Zealand.

"I remember the Tauranga Orange Festivals. We had a sister city relationship with San Bernardino in California. Our citrus queen would go to California and theirs would come here, often visiting our orchard too.

"Dad used to lead the street parade down Cameron Road in Tauranga on his tractor. It was a real 'Fred Dagg' kind of thing."

This was also the era when the industry, controlled by legislation, was run by the Citrus Marketing Authority (CMA) which carried out all marketing. The CMA had branches in Kerikeri, West Auckland, Tauranga and Gisborne and packing and marketing was largely undertaken by co-operatives in those areas. "Growers were only allowed to sell one bushel per person of fruit at the orchard gate," Russell recalls.

Later Russell's father sold the citrus orchard and bought a kiwifruit orchard on land near Tauriko, north of Tauranga, which is today a developed urban, retail and industrial precinct called The Lakes.

With a strong interest in flying, Russell had dreams of joining the Air Force when he left Tauranga Boys' College but didn't pass the eyesight tests. He did however, also enjoy horticulture so enrolled for a three-year course in citrus and subtropical fruit at the local polytechnic. "Initially kiwifruit was included under the 'sub-tropical' heading but with the growth in the industry, it split off to its own category.

"The beauty of the course was that you were virtually guaranteed a cadetship within the industry when you finished, and I got a job on an orchard in No 2 Road, Te Puke. At the end of my cadetship, at age 20, I was offered a manager's role with a house, on an orchard at Tauriko where I worked for 10 years."

1 *Zebor Orchard is protected by mature shelter, originally planted around kiwifruit vines.*

2 *Trees are pruned to a vase shape to let in light and encourage fruit to grow in the centre of the tree as well as outside.*

3 *Russell Borman looks for signs of citrus thrip (Scirtothrips citri) larvae in flower buds and fruitlets.*

After managing a citrus packhouse, Sunripe, and later working for Zeafruit, Russell became a representative for that company, managing 200 growers in the Bay of Plenty and Auckland regions.

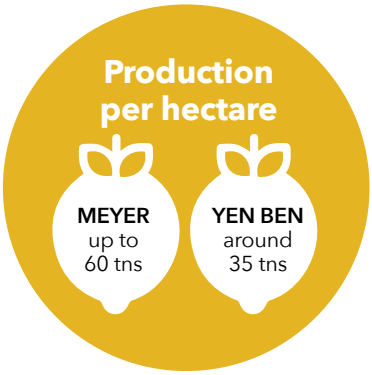
"Through that experience I was exposed to 200 different ideas about how to grow citrus and decided to become a grower myself." With his father, Russell bought an eight-hectare Yen Ben lemon orchard in McLaren Falls Road in the Kaimai Ranges.

Russell also found a way to indulge his love of flying by training and then working as a flight data assistant for Airways New Zealand, in the control tower at Tauranga Airport for 15 years. "I worked five days a week while developing the orchard but later reduced that to three days, until the Covid-19 crisis saw me made redundant.

"I really enjoyed orcharding alongside aviation. From one I am producing a fruit which helps keep people healthy, and in the other, helping to keep them safe in the air. Not a bad combination. I enjoyed the stimulation of working with others at the airport. Life behind the orchard shelter belt can be a bit lonely at times."

In January 2005, John Borman died after the amphibious aircraft he had built, crashed on Lake Taupō. The Yen Ben orchard was subsequently sold, and Russell took ownership of Zebor Orchard, an adjoining four-hectare Meyer lemon orchard he and John had been developing.

"I prefer to grow the Meyer, which is not a true lemon but a hybrid between a lemon and a hardier citrus (probably a mandarin), because it produces up to 60 tonnes per hectare compared to around 35 tonnes for the Yen Ben. It also has less thorns and so is more pleasant to work with."




The trees were grown from cuttings, not grafted onto rootstock, and each year Copperfield Nurseries which supplied the original trees, takes up to 6,000 buds from the orchard for propagation.

The Zebor Orchard site was already protected by mature shelter and had been planted in kiwifruit. These were removed and replaced by Meyer lemons, which 17 years on, number 1,504 trees covering three canopy hectares and producing on average 180 tonnes of fruit each year. "Last year we harvested 200 tonnes."

Zebor lemons have been exported to Japan and China through T&G Global but this season Russell's focus is on the local market. "The crop is down mainly because of this summer's drought, by about 30%."

Fruit is packed by Status Produce Limited in Auckland and CitiPac in Tauranga, and marketed by T&G and MG Marketing.

His right-hand person is Trish Knap who lives locally and for eight years has worked with Russell. She understands exactly how the fruit should be picked and trees managed.

"Trish is amazing and so efficient," says Russell, watching as Trish rapidly and accurately picks fruit from trees kept to a height for ease of harvesting from the ground. Occasionally she cuts a whole bunch of fruit at once, knowing their branches would be removed during later pruning. That's a technique which comes from understanding the trees, and Russell's management systems which aim for a vase-shaped tree.

"Shaping a tree that way allows light into the centre, so you get fruit right through the tree, not just on the outer branches," Russell explains.

Pruning helps promote a second flowering, and in June Russell's trees were carrying mature fruit, tiny fruitlets and flowers. Pruning is also used to lift the lower branches away from the ground, helping reduce the incidence of the fungal disease brown rot, as rainwater is less likely to splash up onto the fruit. Material cut from the trees is mulched where it falls, returning nutrients to the life within the soil.

Zebor trees produce two crops a year. The winter harvest begins in May with 'de-greening' – picking early fruit

4 *Trish Knap, who is skilful in all aspects of orchard management, has worked with Russell Borman on Zebor Orchard for eight years.*

5 *Plastic bins of fruit ready for transport to Zeafruit Packhouse, Gisborne.*

for ripening in the packhouse to bring out the lemon-yellow colour consumers prefer.

By mid-June fruit has coloured on the tree, but the price has dropped so speed of picking and quality is important to ensure a viable return.

Quality is always paramount for Russell and up to 96% of his fruit qualifies as Tag1, the highest quality fruit. He also adheres to the voluntary standards introduced by Citrus NZ, aimed to ensure consumers receive quality, great tasting fruit.

Producing quality fruit ensures repeat purchase, which is good for the entire industry, but also for growers. "We harvest 70% of our crop in winter and 30% in summer, but the summer fruit is worth around four times more."

At around 200 metres above sea level, the orchard is up to two degrees cooler than closer to the coast. While the McLaren Falls area is prone to frost, the orchard's north facing aspect and slope means cold air drains away. "A little bit of frost is good to kill off the bugs you don't want."

The volcanic loam soils are fertile with topsoil up to 600mm deep on Zebor Orchard. Soil and leaf tests are carried out each year to assess what the trees and soil are lacking. Russell applies fertiliser and foliar sprays using his own equipment.

He also has his own sprayer, applying crop protection products when monitoring identifies that pests are at a level which requires control. "I don't like spraying too much. I use a copper spray to stop fungal infections and also target citrus thrip (*Scirtothrips citri*) with a specific spray."

Borer is another pest which Russell aims to control through management techniques where possible. "The adults fly in November to February so I try to avoid any pruning during that time, to reduce the opportunity for females to lay eggs in the trees."

Leaf roller is also an issue, but Russell says thanks to modern, more specific products, spraying to control these and other pests doesn't kill the beneficial insects like blue ladybirds, as earlier sprays did.

"You need the beneficial insects; which are generally the fast moving ones which eat the slow moving ones."

Russell's management techniques may be a little different from others. Decades of orcharding and industry experience has heightened his observation skills and knowledge. A willingness to try something new and learn from others has resulted in systems which are effective in producing top quality fruit with minimal interventions.

Most of all, Russell loves the orchard which he regards as a large garden; an endless source of pleasure as well as providing an income. Working there is not a hardship. "I like it especially in spring when the air is filled with scent and there are bees everywhere in the trees."

# Business leader turned mandarin grower

*Former chairman of T&G Global and mandarin grower Tony Gibbs passed away in mid-June aged 72 after a period of ill health.*

By Glenys Christian

Tony was born in Britain but attended school in west Auckland after his parents emigrated. Starting work as an office junior in Auckland he travelled extensively, which led him to launch his own import company which he sold in 1978.

During the 1980s he worked for Brierley Investments then for Guinness Peat Group in the following decade, where he became executive director. He was a director of Turners & Growers, becoming chairman in 1995. He was chairman of forestry and wood products company Tenon, and held directorships on Enza, Rubicon, Turners Auctions, Tower, Coats, Vector and Wrightson. He was prominent in the battle in the 1990s for Zespri to lose its monopoly on kiwifruit exports.

His services to business were recognised when he received the Companion of the New Zealand Order of Merit in 2009.

During his 16-year chairmanship of T&G Global he took it from its domestic fruit and vegetable seller roots to become an international fresh produce company. It introduced new apple varieties Envy and Jazz to customers during this time.

"Under Tony's leadership and strategic direction, T&G reshaped its business to focus on its core strength of fresh produce and expanded its global footprint," the company's chief executive Gareth Edgecombe said.

In 2011 Tony announced his intention to step down from the role of chairman. But his lifelong dedication and commitment to supplying fresh produce to communities saw him continue his relationship with the company as a key supplier of mandarins from his Matakana orchard, north of Auckland. He had bought 25ha of land initially, and after reading about the crop starting in New Zealand, decided to plant an orchard which quickly grew to over 60ha with 55,000 trees. Ezypeel production topped 1,000 tonnes a year with 70 workers employed during harvest.

Gareth Edgecombe said T&G Global was in mourning as Tony's wide experience in the industry had been invaluable to the company. It was very grateful to him and his family for their passion, commitment and lifelong relationship and sent heartfelt condolences to his wife Val, family and friends.

# Ready for lockdown audit

*During the Covid-19 lockdown, Mubwons Ltd of Te Puke was among the first kiwifruit harvesting contractors to be audited by the Ministry for Primary Industries.*

By Elaine Fisher

"It was reassuring to find out that we were doing the right things," says Scott Ellison of Mubwons, the company which specialises in kiwifruit harvest, grafting and flower picking.

The company applied the workplace safety principles of eliminating, minimising and isolating risks, and photos taken by Chloe King were used to illustrate protocols expected of staff. "It was not possible to eliminate the risk entirely, but we did everything we could to educate staff and no one got sick with Covid-19."

Mubwons operated two teams of 16 to 20 pickers and their numbers included many New Zealanders displaced from other jobs. "We had a higher percentage of Kiwis in our teams this season than usual," says Scott. ●



1 *Mubwons Ltd installed signs at the entrance to orchards pickers were working on, setting out protocols for entrance to the site.*

2 *Glove bin.*

3 *Storage and cleaning of picking bags was handled by a supervisor at the end of each pick.*

4 *Pickers in the same bubble were issued with coloured ID tags to clearly define which bubble they belonged to.*

5 *Pickers waited at a two-metre distance to empty their bags if they were not in the same bubble as those unloading fruit into bins.*

*All photos from Chloe King, Mubwons Ltd.*

# Employing people who lost their jobs due to Covid-19

*In February, in the midst of uncertainty surrounding Covid-19 restrictions, Te Puke orchardists Kris and Mat Johnston, concerned that the industry may be faced with some level of crop management, were preparing for significant financial impact.*

By Elaine Fisher

"We really didn't know if we could pick our fruit or our clients' fruit," says Mat.

"We were so fortunate that our industry was declared an essential industry and we could go ahead with harvest," says Kris.

Despite that relief, staffing needs changed for the couple who run not only their own orchards in No 1 Road Te Puke, but also through their company Mat Johnston Contracting, harvest fruit from 90ha of client orchards.

"We had delayed the arrival of our RSE (Recognised Seasonal Employer) scheme workers from Samoa as we wanted to have them here later in the year for pruning. I regret that now because they never got here," says Kris.

The couple feel for the RSE workers, many of whom would have been returning for their third season. Because of Covid-19 they have missed out on earnings which are vital to the well-being of themselves, their families and communities. They are also a loss to the kiwifruit industry.

"They are highly skilled pruners and that's something you can't teach anyone in a day or two, like you can with picking or bud thinning," says Kris.

Acutely aware of how rapidly the national and international Covid-19 pandemic restrictions were progressing,

Kris increased her recruitment efforts, mainly through social media.

"We had quite a lot of interest from backpackers in the South Island and when I realised travel restrictions within New Zealand were coming, I contacted them saying don't hang about, get on the Cook Strait ferry and get here ASAP.

"Some couldn't get a booking but just turned up at Picton and hoped to come across. Others didn't make it at all."

The Johnstons also recruited New Zealanders who had lost their jobs. "We had an Air New Zealand cabin crew member, a vegan baker, black water rafting guides, and of course hospitality workers, a real mix of good people," she says.

## The Johnstons also recruited New Zealanders who had lost their jobs... a real mix of good people

Mat coordinated picking teams, considering the possibility of electing to pick some fruit from all orchards at first to ensure every grower had the chance of at least some income. As it turned out, all the available fruit was eventually harvested.

"The lack of a dry matter payment is a bit disappointing, but the fact that we were able to harvest, and the fruit got to market and is selling well, more than makes up for that disappointment," says Kris.

Harvesting was slower because of the social distancing rules and a reduction in the size of teams from 18 per team to between 12 and 14 per team. Kris and Mat colour-coded their team members, issuing them coloured wristbands and coloured strips on their picking bags to help identify family and housing bubbles.

"Because of distancing requirements, only three people could be around the bins emptying bags at any one time, slowing things down. We were probably 20% down on bin numbers picked during the start of the season," says Mat.

That the weather was fine, until the last couple of harvest weeks in May, also helped. "We normally pick for six to seven hours a day with late starts over the G3 (gold kiwifruit) period. With the weather being so good we managed to extend that out to nine-hour days."

*Left: Covid-19 social distancing requirements slowed down the speed with which pickers at Mat Johnston Contracting could fill kiwifruit bins (photo supplied).*

*Top: Orchardists and contractors Mat and Kris Johnston (centre), pictured with some of their staff, are committed to the kiwifruit industry despite its highs and lows (photo supplied).*

This year, 2020, was Mat's forty-third kiwifruit harvest and 37 years since Kris became involved in the industry. The couple who began their orchard contracting business "with a pair of secateurs and some wet weather gear" and finally realised the dream of owning an orchard, are still committed and enthusiastic about the industry, despite its highs and lows.

"It's a fantastic industry to be part of. Kiwifruit is a high-vitamin nutritious fruit – it's such a good product and I'm so proud to be part of this industry and part of the Zespri family," says Mat.

## KIWIFRUIT UPDATE

# Co-operation and strong relationships key to coping with Covid-19

*Nikki Johnson, Chief Executive of New Zealand Kiwifruit Growers Inc.*

By Elaine Fisher

**Surviving 'curve balls' in the past helped the kiwifruit industry cope well with the challenges of Covid-19 restrictions during the recent harvest, says Nikki Johnson, chief executive of New Zealand Kiwifruit Growers Inc.**

"This industry has been recognised for coming together in times of trouble, and during Covid-19 collaboration and co-operation between growers, contractors and the post-harvest sector meant sharing what worked. Everyone understood that we would get there by working together."

And get there the industry did, with no cases of Covid-19 among workers on orchards or in packhouses, and all the fruit picked and packed.

"The industry is not out of the woods yet, with a lot of fruit still to sell. However, kiwifruit is a natural product with a very high Vitamin C content which consumers are seeking, so as an industry, that's a good place to be," says Nikki.

Being declared an essential industry meant the kiwifruit harvest could go ahead; "but in Level 4 under what basis we could continue to work and the feasibility of the rules had to be worked out. It all happened quickly, and the rules changed frequently.

"The fact that we had established a good relationship with the Ministry for Primary Industries during 'peacetime' (pre-Covid) was an advantage."

As a food industry, kiwifruit already had hygiene requirements and contract tracing in place. "It was social distancing that caused the most drama and it did slow things down initially. Orchardists and contractors had to change how they picked, and some needed more infrastructure in place.

"There were also some improvements to be made regarding hygiene and facilities as workers were required to wash their hands at least eight times a day, including when they arrived on site and before and after every break."

With protocols changing between different Covid-19 levels, questions from growers increased, resulting in traffic on the NZKGI website rocketing up during April, and staff working from home almost round the clock to keep up the information gathering and transfer.

"We anticipated a lot of the questions growers would have especially around protocols, so had a FAQ facility on the website. Every time new questions arose, we would update the website and the traffic went through the roof. The Zespri call centre experienced similar high traffic volumes."

A partnership between NZKGI and Zespri was formed to support the industry in finding workers as well as helping people and businesses affected by Covid-19.

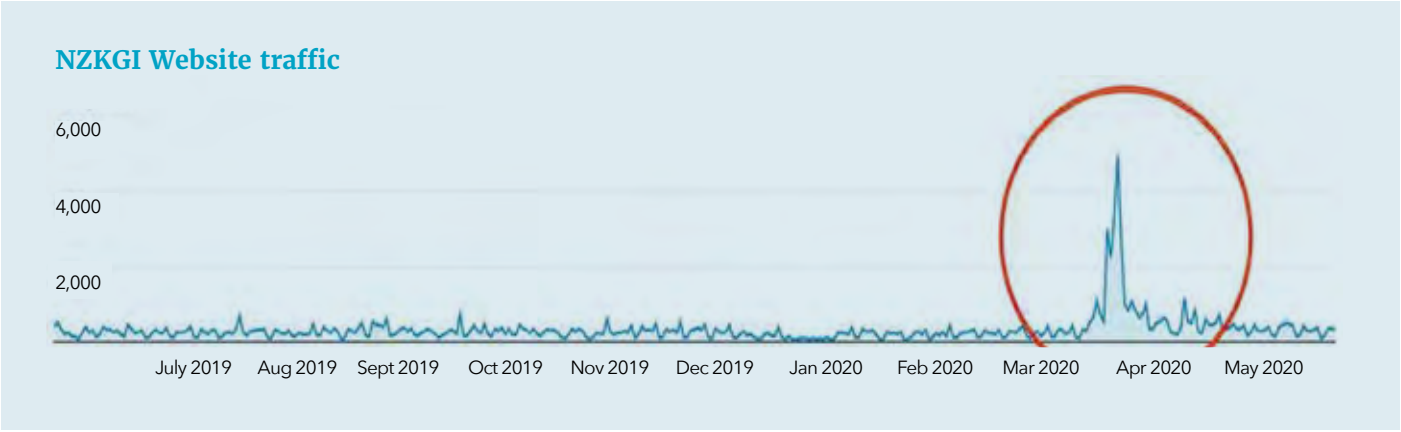
> "This is about not only responding to change, but also about leading through change," says Nikki

The Labour Co-ordination Centre had companies representing around 700 people and over 400 individuals registered, many from tourism, hospitality, forestry and construction.

From April 6, more than 1,000 people registered with the centre, and each week those people were emailed with details of between 200 and 550 vacant positions with contractors and post-harvest companies.

NZKGI's Labour Attraction Strategy was about to be launched, targeted at students and retirees, just as Covid-19 requirements came into place, including the requirement that over 70-year-olds had to self-isolate. "We had to change focus and switched to New Zealanders who were recently displaced. We contacted the tourism and hospitality industries in the Waikato, Bay of Plenty and Rotorua to give people the opportunity to work within the kiwifruit industry."

The initiative was successful, but Nikki says there was still a significant turnover in staff. "The wage subsidy had an impact, with some people opting to take the subsidy and not work.




*Every time new Covid-19 related questions arose, NZKGI would update its website and the traffic "went through the roof".*

"In other cases, some employers provided staff to work in packhouses, and with the wage subsidy were able to top up their wages."

Among workers were staff from Matamata's Hobbiton tourist attraction. "Under Level 4 we had to provide permits for staff to travel because of police roadblocks, and clarify the requirements for bubbles of workers living together and so allowed to travel together.

"There was a lot of turnover of staff and we are conducting a survey to find out why, especially among those who worked just a few days and did not come back."

The survey will ask if the reason for not staying was the hours required to be worked, the type of work, the wage subsidy or concerns about the risk of getting Covid-19.

The industry was down about 1,200 workers at the start of the season as most of the Recognised Seasonal Employer (RSE) scheme workers, due to arrive in the two weeks following lockdown, were not able to enter the country.

"Night shifts were particularly impacted by the lack of RSE workers. The industry did provide work for some RSE workers from Nelson and Hawke's Bay who would normally have gone home but couldn't do so. By mid-June, some had been in New Zealand for eight to nine months."

The Covid-19 experience has led to closer co-operation, fostered by Horticulture New Zealand, between all horticultural sector groups, which Nikki says is a positive outcome.

"There has been a lot of communication between the wider horticultural sectors, with regular conference calls between chief executives highlighting issues and areas of co-operation, and we will continue to collaborate around plans for how horticulture can help the New Zealand economy recover post Covid-19."

Dealing with the pandemic has illustrated in advance the appropriateness of NZKGI's new vision *Innovative leadership succeeding through change* which is to be launched in the NZKGI annual report and at the NZKGI 2020 Annual General Meeting on 18 August.

"This is about not only responding to change, but also about leading through change," says Nikki. ●

# Zespri — Covid-19

*The impacts of the worldwide Covid-19 pandemic on the New Zealand kiwifruit industry will likely be felt for more than the 2020 season, says Dave Courtney, Zespri's chief grower and alliances officer.*

By Elaine Fisher

"As a global business we are very aware that Covid-19 could impact our markets for some time to come, and not all will be affected equally. Like any business we have to be prudent in our future planning."

Prudent planning in the face of the looming crisis early in the year included Zespri considering its strategies should Covid-19 mean only a percentage of the crop was picked.

"We didn't feel at the tipping point where it was necessary to make decisions around crop management, but when China went into lockdown we had to consider what would happen if it didn't reopen and ships were not allowed into its ports."

As it turned out, thanks to wide co-operation across the industry, its status as an essential industry, and fine weather during picking, the harvest went smoothly and exports to markets are up on last season.

The shipping programme ran well with fruit landed in market earlier than last year, due to fine weather during harvest and an early maturing crop.

"Shipping, both charter and container, has gone well. There have been some seasonal fluctuations but no significant disruptions. We've made a really strong start in Europe and all markets are tracking to plan."

Dave says the industry did not have to lobby to be classed as essential. "We were contacted by government to say kiwifruit was being considered as an essential industry and asking if the industry could meet the Covid-19 protocols."

Relief at being able to harvest and pack fruit was tempered by concerns about how to do that under strict hygiene and social distancing protocols.

"Right across the industry there was sharing of ideas, including from our partners in Italy where packhouses had set up systems to work under similar protocols."

By the end of harvest, there had been no cases of Covid-19 among kiwifruit workers and all the available fruit was picked. Dave says meeting Covid-19 protocols came with additional cost and complexity for all sectors of the industry.

"Everyone was conscious of the value of the essential industry status, and how that could be taken away if we failed to meet the protocols.

"Once again, this crisis illustrated how important the collaborative nature of the kiwifruit industry is. As with Psa-V, industry players put aside any differences and worked together to get the fruit picked, packed and shipped."

Packing onshore was finished by mid-June, but Dave says the selling season still has a long way to go.

Zespri, as always, is constantly monitoring its markets. The closure of Beijing's Xinfadi wholesale market in June because of cases of Covid-19, was not too disruptive to Zespri sales.

"Fortunately, we don't sell big volumes through that market. However, we are watching what happens to consumer spending across all our markets, and especially towards the close of season."

Concerns that ships may not be able to enter ports, or transport to operate to get fruit to markets didn't eventuate and consumers were keen to buy kiwifruit, particularly because of its high Vitamin C content. While kiwifruit's Vitamin C content has traditionally been a part of Zespri's marketing, its profile has been lifted this season and Dave says monitoring of consumer behaviour shows a strong trend towards seeking out high Vitamin C foods.

During lockdown Zespri staff, both in New Zealand and in its overseas markets, worked from home and there were no job losses.

"Some parts of the business slowed down; others got busier. Staff had to plan the whole season from home and were really excited when the first fruit arrived in market, especially given the early levels of anxiety, particularly around markets in Europe."

The lockdown working from home experience has led Zespri to consider the possibility of staff working from home some of the time, and also using technology to reduce travel for meetings.

"We have been talking about how the process has gone. Some staff say it helped them to be more productive and technology worked very well, but it's about getting the balance right between staff working from home and being in the office and part of a team. There is still need for face-to-face meetings and contacts to maintain the personal connections that underline our global value chain." ●


1 *Zespri SunGold on sale in China (photo supplied).*

2 *Zespri Kiwifruit on its way to market during the 2020 harvest (photo Jamie Troughton, D'Scribe Media).*

*The "super slick" washbasin set-ups at Trevelyan's means staff can wash and dry their hands in a one-way system where two-metre distances are maintained (photo supplied)*

# Good planning key to response

***When one of his staff told James Trevelyan of the fears she had for her family in China because of Covid-19 coronavirus, James began researching the disease and its likely arrival in New Zealand.***

By Elaine Fisher

That was late last year, well before this country implemented an official Covid-19 response. It was his experience of another nasty disease which heightened James's instincts.

"I remember in August 2010, listening to Zespri chief executive Lain Jager talking about the kiwifruit vine disease Psa-V in Italy and thinking, thank goodness we don't have it here. By November it had been found in a Te Puke orchard. When you have been through something like that your eyes are opened wider to other threats," says James who is managing director of Te Puke horticultural and post-harvest company Trevelyan's.

Psa-V proved deadly to the lucrative gold variety Hort16A, and for a time, brought into question the future of the kiwifruit industry. In the end its saviour was found in the new gold variety G3 which proved tolerant of the disease.

Ahead of the 2020 harvest season, with another overseas threat looming, James began internet research, finding reports from a Japanese journalist in Wuhan about what was happening in the city at the centre of the Covid-19 disease outbreak.

"I also contacted friends in Italy who said things were really tough there. I have a cousin in London who told me of people in her street infected with Covid-19 and the father of a friend who had died."

Following those discussions James decided to put Covid-19 at the top of the capacity planning list for the upcoming kiwifruit harvest. "A medical colleague predicted it might reach New Zealand by August, but it came much faster."

Before the New Zealand government implemented its first Level 2 restrictions in March, the team at Trevelyan's had already done a lot of preparation. By Level 2, the company's cleaning team had tripled in size and yellow and black tape was everywhere in the packhouses, setting out one-metre distances.

"Then we went to Level 4 and two-metre distances, which was a big step. We had two Covid-19 teams, each with four people to monitor the protocols and documentation for the day and night shifts."

Staff had temperatures taken every time they arrived at work. In the packhouses staff were allocated to specific 'zones' which were the only ones within which they could move. Shift times were staggered, and special handwashing areas set up.

"We were losing ten minutes a shift with people handwashing, so had the facilities for two sheds rejigged. Now we have super slick washbasin set-ups. People clock in, soap, wash and dry their hands, walking through a one-way system which is screened so they do not pass one another, and two-metre distances are maintained.

*The screens installed in the Trevelyan's packhouses during Level 4 are likely to stay*

*Celebrating a Covid-19 free harvest are Trevelyan's day-shift Covid-19 team from the left Jude Edge, Bridget Boyles, Shane Batchelor, Adriene Day, Cheryl Johnson and Sue Dennehy. The night shift Covid-19 team were: Tania Marsh, Crystal Te Keeti, Nikania Marsh and Abraham Mikaere.*

We cut holes in the sides of the sheds so staff go out that way, and the system now handles 130 people each shift with ease."

Initially tensions were high, says James. Some people decided not to come to work, concerned about their own health or the health of their families.

"Once we started taking temperatures and implemented handwashing and zoning, people settled down as they felt things were under control.

"At every single shift, team leaders talked about what was going on, sharing knowledge from overseas and referring to the government Covid-19 guidelines for verification of questions. We explained we wanted to keep everyone safe."

The protocols required extensive documentation and constant checking that they were being adhered to. "Checking was the hard part. Planning was relatively easy."

Most staff were happy to comply, but not all. "We had a small group we had to let go as they just didn't respect the protocols and we couldn't take the risk of non-compliance."

Probably because of social distancing and handwashing, few Trevelyan's staff have been unwell this season. However, those who did develop colds highlighted a major problem. "They had to get tested for Covid-19 and were out of the system for four days, as were their close partners. In two cases we lost half a department, so we then split people all over the site, mixing up teams so if someone went down, they did not take the rest of the team with them."

Trevelyan's cafeteria normally seats up to 200 people but because of social distancing, only 40 could be there at any one time. Marquees were hired to take the overflow. Inductions for new staff were held either in the marquees, or if the weather was fine, out on the facility's greenspace.

James estimates the additional costs incurred to meet Covid-19 protocols, including increasing security on site, are in the region to $300,000 to $500,000, but he's not complaining. "We were able to harvest and pack the fruit, which was very fortunate."

However, largely because of distancing requirements, productivity was down. "At Level 2 we were struggling. We had to be very structured in how we set up the machines. With single layer trays you have someone packing, someone wrapping and someone labelling, and you couldn't have someone next door less than a metre away."

Finding out that screens had been extensively used in China, the decision was made to introduce them to the packhouse, but this had to await sign off from the Ministry for Primary Industries and Zespri.

By Level 4 the screens were in place and James says they are likely to stay. "Staff like the screens and Covid-19 is still knocking on our door so it makes sense to continue to be cautious."

While some people were not confident to go to work, Trevelyan's had a group of staff very grumpy that they couldn't. Many of the seasonal staff, who return year on year and stay in the Trevelyan's 'campground' in mobile homes, are over 70 years old. "They were not allowed to come to work at Level 4, and they couldn't go home either. They were not happy."

Workers from other industries including forestry joined the post-harvest team, but once the wage subsidy came into place, many decided to take a break before re-joining their previous employers.

"The churn in levels of staff coming and going was unlike anything I've ever seen. One week we paid wages for around 2,000 staff but only had 1,100 on site."

A further complicating factor was when the independent maturity testing laboratory Eurofins failed to deliver timely maturity results. Trevelyan's had to quickly increase the capacity of its own lab to pass orchards for harvest.

By early June, the harvest was over and staff numbers decreased as the packhouse concentrated on local market fruit and re-packing. The marquees came down and temperature taking was no longer necessary.

Relieved that staff remained well, and that fruit was packed and exported, ensuring grower and industry incomes, James is not dropping his guard.

"Covid-19 is I believe the seventh virus from the corona family to infect humans. Will there be another one? Probably." ●

## APPLE AND PEAR UPDATE

*Inside the Mr Apple packhouses perspex screening may become a permanent feature*

# We pulled it off: harvesting through a pandemic

*New Zealand's plunge into lockdown at midnight on 25 March as a result of Covid-19 could not have come at a worse time for the pipfruit industry.*

By Rose Mannering

Harvesting was in full swing, packhouses were humming and the marketing machine was well underway. In a matter of days, orchardists and packers had to create solutions to deal with keeping workers safe, social distancing, but maintaining the harvest momentum.

Deemed an essential service under the government's pandemic framework, each business had to prove to auditors from the Ministry for Primary Industries (MPI) they were able to comply with the stringent new Covid-19 rules while they continued to harvest fruit.

Gloves, masks, hand sanitiser all had to be sourced from suppliers who had often sold out. Innovative solutions had to be found where product was not available, and the biggest hurdle of all, workers had to be separated on the packing line to maintain social distancing.

Community housing for Recognised Seasonal Employer (RSE) scheme workers raised concerns both within the industry and at government level for potential spread of the virus.

Normal shipping schedules were disrupted due to congestion in foreign ports with delays in handling product.

Alan Pollard, chief executive of New Zealand Apples and Pears, says we achieved the impossible. There were no cases of Covid-19 confirmed, fruit was picked, packed and shipped to international markets, and with fruit 80% sold, returns for the 2020 season look reasonable.

The timeline of the pandemic looked something like this:

"We began hearing about Covid-19 in late January from China and the World Health Organization but we didn't have a good understanding of the severity," Alan says.

By February infection had spread, and NZ Apples and Pears began to wonder what effect it might have on the industry in New Zealand.

"We started to prepare."

"On Friday March 20 we did a test run working remotely, and from Monday we had just 48 hours to get ourselves ready; luckily we had done the pilot and it worked well." Every business was going through the same drill to prepare for the Wednesday lockdown.

Alan says they quickly realised the industry needed clarity, and NZ Apples and Pears speedily adopted communication systems and resources to help its members. "Our aim was to be the *single point of truth*; members needed to have confidence in our operations; we are happy with the outcomes."

Regular meetings were held with pipfruit company bosses, Horticulture New Zealand and MPI.

"Deemed an essential service, we realised we needed to meet three key target areas: managing the health and safety of our people, not contributing

to community transmission, and guaranteeing food security."

A framework was designed to make that work. "From a hygiene viewpoint there wasn't much we needed to do to comply, the industry is used to that aspect." However, increased social distancing meant a massive change to operations, particularly in packhouses. Picking gangs had to be separated, with only one picker working in a row. Developing physical separation with screens was a massive undertaking. NZ Apples and Pears set up a dedicated Covid-19 website to communicate with members, as well as sending out a daily email.

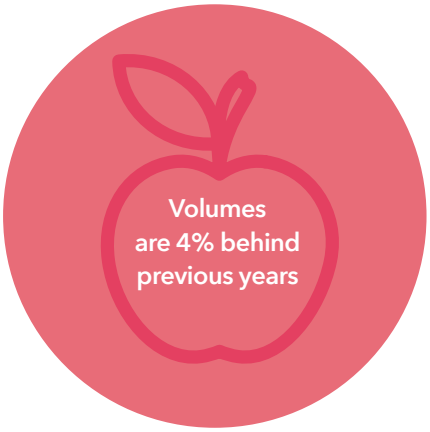
"We needed to provide guidance on RSE groups living travelling and working together. A separate email group was set up for RSE providers bearing in mind RSE workers were in a foreign country, were housed differently and they were away from their families." Travel posters were created for RSE workers to put in their vans to educate the public who were raising complaints about the large groups travelling together.

> **"In the end we got through; we had to completely re-engineer an $850-million industry with 3,500 permanent staff," Alan says**

"Now we are at Level 1, if we had to go back at least we have an understanding to go back very quickly."

New Zealand pipfruit exporters are continuing to sell product to a world that is completely disrupted. Shipping schedules are awry, with freight companies constantly changing their timetables due to hold ups on wharves throughout the world. Many countries have had issues receiving imported goods. China shut the wet markets; these markets were a major source of sales for New Zealand apples, but online sales increased to keep the trade going.

Volumes of apples sold to mid-July are only 4% behind compared to previous years. Zespri is in a similar situation with kiwifruit.




"Ironically, this year is a record crop of very high-quality fruit. "Pricewise although the season is not stellar, it is not a disaster. We are getting value back from our products in an uncertain market."

Sales to Europe and the Middle East are ahead of last year, North America is about the same, and sales to Asia and the United Kingdom are down. Asian buyers have been risk-averse, with smaller orders made more frequently. China has still taken a significant volume of product, and Russia has been a good market.

Scales Group health & safety, compliance and sustainability manager Karen Morrish says Mr Apple packhouse managers had to move incredibly quickly to create individual shielded workstations for its staff on the packing line. "The whole focus was on keeping everyone safe, and how we could do it," she says.

Permanent perspex barriers were also installed in the smoko rooms and washing stations. Shifts were separated, with a half-hour break in between to aid social distancing.

Sanitisation 'clean sweeps' were undertaken between shifts, and every surface got some attention including toilet flushers, and right down to machinery like forklifts. "It took a while to settle into the new routines but they became our new normal."

Throughput remained above 50% but did not quite get up to pre-Covid levels.

Logistics teams were pushed to the edge managing a record crop with slower than anticipated packing and shipping schedules creating a bottleneck. In terms of the apple harvest "we couldn't have picked a worse six weeks," Karen says.

In an unusual move, exporters collaborated with their logistics capabilities during this difficult time. "Hopefully we don't lose the capability to do that," she adds.

An unexpected bonus was the lack of absenteeism due to ill health, and Karen says Mr Apple can see the benefits in terms of general staff health. Another stand-out from the experience has been a stronger sense of working as a team and a camaraderie developed through shared experience.

> **"Another stand-out from the experience has been a stronger sense of working as a team...**

Mount Erin sales and marketing consultant Jono Wiltshire says in March the industry was holding its breath, wondering how bad the marketing season might be. "On the whole we have come out of it pretty well; although returns are back on last year, they are by no means a disaster."

Each exporter has had challenges, with whole shipments being dropped out of the schedule into China and other Asian ports due to delays with vessels unloading.

Strong prices in Europe have led to a big jump in Braeburn returns. Few in the industry would have predicted this, with some companies opting not to harvest this variety due to perceived risk.

# Horticulture: capitalise on government recovery plan

*Alan Pollard, Chief Executive of New Zealand Apples and Pears*

By Rose Mannering

***In early July Prime Minister Jacinda Ardern announced government plans to increase primary sector export earnings by $44 billion over the next decade, with a goal of getting 10,000 more New Zealanders working in the sector over the next four years.***

Fit for a Better World Roadmap – Accelerating our Economic Potential is a 10-year plan to unlock greater value from the 'force' that is New Zealand's primary sector.

GOAL:

**10,000 more kiwis working in the primary sector**

over the next 4 years

The plan sets a target of lifting primary sector export earnings to $10 billion a year by 2030, which would bring in a cumulative $44 billion more in earnings in a decade. If successful, the plan would almost double the current value of the primary sector.

Alan Pollard believes horticulture is the best placed to capitalise on the government plan for growth, while still achieving environmental goals around water and emissions.

"We do not want to hold back – we can aim for a $20 billion increase in horticulture by 2030; we just need to figure out how do we extract the greatest value out of what we grow, it is an exciting proposition," he believes.

The government has produced a plan for the primary industry as the saviour to our own economic woes. "I would go further than that, it needs to be driven by horticulture; our products are safe, reliable and trusted around the world."

Government agencies and business leaders have produced the plan, which will be critically important for provincial areas like Hawke's Bay and Nelson. "New Zealand is relying on us." The plan will affect every part of the supply chain, including access to good varieties. Anticipating what consumers around the globe will want in a post-Covid-19 world will be key.

Alan believes the focus will be maintaining safety right through the supply chain and removing our own regulatory barriers with attention to labour policy and the rules of exporting. "We are the best producers of apples around the world, but we have the harshest export protocols."

The government plan supplies the framework, but it is yet to be fleshed out. "That will be where we come in; the strategy needs to be industry led and government enabled. We need to address issues that confront our members like urban development, access to water, and climate change. This framework needs to include environmental considerations."

## RSE Return Critical

The industry has come through the pandemic relatively unscathed but now faces residual matters like labour. Getting Recognised Seasonal Employer (RSE) scheme workers back for next season is critical; a Pacific bubble would offer safe passage. "We cannot get by as an industry without our RSEs; we can't rely on the unemployed; our RSEs are a skilled seasonal workforce. Retraining New Zealanders to fill the gaps would only ever be a stop-gap measure. Our work is physically demanding and not everyone can do it." The success of the industry has clearly created more full-time jobs for New Zealanders, and horticulture will do its part recruiting new people into the industry.

"Pacific Island workers in New Zealand at the time of the pandemic were desperate to get back to their families; some suffered emotional turmoil at being away from their homes," he says.

As they have slowly returned home to countries like Vanuatu, Samoa, the Solomon Islands and Tonga, the next big challenge will be getting them back. The former Minister of Immigration Iain Lees-Galloway agreed 14,400 RSE workers will be allowed to return, the same number as the previous season.

"These workers are critical to our industry; the Minister has allowed film crews through the border, and America's Cup competitors.

> "We want the right plans in place to get our RSE family back

"If a vaccine is found, maybe we still need a rebalancing of the economy to be less reliant on tourism. Exposure to tourism has been proven, and this could all happen again."

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*Reg and Patsy White in the last days of pear packing at Grasmere Orchard*

# Reg & Patsy preserved their own piece of history

*A piece of fruitgrowing history will end with the sale of Grasmere Orchard, where Reg White has farmed for close to 60 years.*

By Rose Mannering

Reg and his wife Patsy were still picking and packing pears from century old trees for the local market at Grasmere Orchard near Hastings, but this drew to a close with the sale of the property in June.

Grasmere has had a colourful history, following the flow of New Zealand's economy for the last 130 years. The property, off St George's Road North, was established by Edward Heathcote Williams in the 1890s. Edward was one of the forefathers of the New Zealand fruitgrowing industry, a lawyer by trade (a partner of well-known Napier firm Sainsbury Logan Williams). He travelled extensively and brought cuttings back to New Zealand from England, as well as Japanese dwarfing rootstocks.

Edward planted 75 acres of fruit trees in the 1890s, with 35 acres of this in pears, as well as establishing a grand garden of five acres, with formal terraces running down to a jetty at the Karamu Stream. The terraces perished in the 1931 earthquake, and Edward's health also suffered.

In 1947 Grasmere was purchased by the government and divided into six properties for the Rehabilitation Scheme for Returned Servicemen. At the State Advances offices in Napier, six names were drawn out of a box for the ballot out of the 20 entered. John Sunley was to be one of the unlucky ones that day, but soon afterwards an opportunity came up to buy one of the blocks.

A communal packhouse had been established for all six properties, but before long each of the owners went their own way and built their own sheds. Poor drainage and poor pollination led to low production on John's pear block. An improvement to the original tile drainage was implemented in the 1960s, solving water ponding problems.

Reg started working at John Sunley's orchard when he was 17 years old, around 1961. Almost 60 years later he has relinquished the reigns to the historic orchard. "When I arrived, trees were in full production; one year we got 5,000 cases of pears off, packing right down to size 216s," he recalls.

He remembers grafting big old Winter Nellis pear trees, grown on a multi-leader system with six leaders, to include two Williams' bon Chrétien pear leaders, which helped solve pollination woes.

Conditions and pay at Sunley's were definitely better than his first job. In Twyford when he left school he started working full-time, and for two and a half years he had no holidays and no annual leave.

> "...for two and a half years he had no holidays and no annual leave

At Sunley's Grasmere block, Reg was more than happy starting on a pay rate of seven shillings an hour. "He was a good boss, if he was grumpy I just avoided him," Reg recalls.

A bonus was paid after every season, and after five years Reg had enough to secure a mortgage for a house in Havelock North to move into with his new wife Patsy

Patsy, a farm girl who grew up at Owhanga Station near Dannevirke, became an integral part of the orcharding operation when the Whites bought John out on his retirement in the 1970s.

In 2020 Patsy was still making the boxes up at the packhouse, but looking forward to finally relinquishing that job.

The Whites grew Sturmers, Golden Delicious, and Delicious. To work a block over to a new variety, Reg would interplant (he did this with Hawke's Bay Red Delicious) and five years later removed the older unwanted variety.

Reg and Patsy started with an old Bensemann grader in their packing shed, supplying the NZ Apple and Pear Board with export apples.

In the 1970s they planted higher paying varieties Braeburn, Granny Smith and Royal Gala. Reg has always been a hands-on orchardist, doing much of the work himself with support from a few loyal staff. Over time he bought out four of his neighbours to own most of the original Grasmere Orchard.

Deregulation of the domestic market enabled the Whites to find their niche supplying pears. They had later added a coolstore and controlled atmosphere stores to give themselves market flexibility.

Patsy is looking forward to more time for golf, and Reg has retained one five-hectare block as he is not ready to fully retire just yet. When they married, they just had a table and chairs, but after a lifetime of hard graft they have been able to enjoy the fruits of their labour. They have travelled to many parts of the globe; each year in May when the last apple has been picked, they would set off on their next adventure. Reg and Patsy are keen to get back to that sort of rhythm. ●

> "...after a lifetime of hard graft they have been able to enjoy the fruits of their labour

*Philip in his home-built coolstore*

*Pruning the pear trees*

# Season a struggle for small grower

*Philip Platje grows the traditional Doyenne du Comice pear variety on a couple of hectares near Cambridge in the Waikato, but what looked like being his best season yet was hit by freak weather and Covid-19.*

By Geoff Lewis : Photographs by Trefor Ward

**Philip has been in horticulture all his life and gained entry into the business while at high school in Hamilton and spent his summers helping out on an orchard owned by a family friend.**

Twenty-five years ago he bought a 1.85ha block at Kaipaki near Cambridge, the TreePak Orchard, and planted the old-style Doyenne du Comice – an attractive variety but with a reputed susceptibility to fireblight.

Philip built a new coolstore last year, not a big place, but a useful addition to his facilities, and everything was looking pretty good until a weather bomb hit and a tornado demolished it. ''We stood it back up again.''

Pruning runs from June through to September, a little spray, lime sulphur in winter and an organic fungicide. Bud burst in September, thinning and removal of any diseased fruit and harvesting late summer.

This season had been going well with the block producing nearly 10 tonnes and the fruit quality was ''unreal'' – until Covid-19 flew out of left field and closed down Philip's outlets.

''It's been a challenging year for sales, Covid shut down the farmers' markets and the organic shops. I contacted wholesalers over the shutdown period and got no replies. Last year a lot of GAP (Good Agricultural Practice) certified fruit was dumped on the market, but the Covid thing blew everything apart. I can keep a crop up to 18 weeks if I need to. But it has been very frustrating, I'll be lucky to sell a third of the crop, the rest will go to the cows.''

Philip investigated making 'perry' or pear cider through Frucor, but the fruit had to be made into a paste and the Comice variety is not the best for this. He has a home-made pulper to process the fruit into pulp and annually makes up to 700 bottles of pear wine.

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***Aligned values and strong relationships are crucial to the success of Hawke's Bay orchardists Marian and Graham Hirst.***

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"Finding that premium in those early years was really hard."

On advisement they took out insurance, including FMG's hail cover—and just as well.

"We were just coming up to our first commercial harvest of apples when we had a giant hailstorm. All the crop was hit," says Marian.

"We wouldn't have been able to continue our business if we didn't have that hail cover."

Fast forward 30 years and both the orchard and FMG's relationship with the successful pair has grown.

The Hirsts now have a 40ha pipfruit and blueberry operation, have nine permanent employees and welcome up to 100 seasonal workers. They also have plans to expand, some of which preceded the Covid-19 lockdown, including an expanded blueberry operation. They also continue to develop their apple varieties to meet market demands.

It's an interesting time but one in which FMG is privileged to support them through.

As part of good business practice, Marian says they do review their insurance options but have always chosen to stay with FMG.

"We stay with FMG for all the right reasons. It meets our requirements from being a farming focused insurer, to providing value for product—and then there's the relationship we have."

"We believe strongly in partnerships and relationships with those who we work with—this spans our hort advisors, suppliers, accountant, lawyer and our apple exporter, for example. All the businesses and people we've chosen to work with, our values align and that makes for long-term relationships," says Marian.

Over the years, the Hirsts have had a few claims through FMG and say that they had good support, and the assessment and payment process was quick.

They've also been impressed with FMG's risk advice.

"Talking through our risk management has been exceptionally valuable. It's impressive and surprising the depth of rural knowledge we've seen," says Marian.

FMG's Orchard Fruit insurance not only covers your growing and harvested fruit (pip fruit, stone fruit or grapes) against hail strike, there's no limit on the fruit size at claim time. So it's well worth getting insurance in place at this time of year. Because no fruit means no income. We also cover for fire, malicious acts, impact, natural disaster and flooding. And we'll pay out 100% if more than 65% of your insured fruit block is damaged. No matter what happens, we've probably seen it before, and we'll know just what it takes to get things sorted. If that sounds like the kind of insurer you'd like on your side, ask around about us. Or better still, call us directly on 0800 366 466.



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# Persimmon update

By Ian Turk : Persimmon Industry Council Manager

*As for all industries I am sure, 2020 has been a challenging season as we deal with the impacts of the lockdown and its effects on international trade.*

Our export season started early under the Level 1 lockdown – in fact, the last day under Level 3, I was rushing to get together and into the postal system, our kits for collecting samples for residue testing. All our growers must have a residue test before they are eligible for export. Being an essential industry, along with our suppliers, meant that we were able to have all our systems in place and actioned, but there were certainly some nerves around moving perishable product through the distribution chain.

Covid-19 certainly did pose a number of issues for us. About 20% of our exports are sent by air, and particularly during the early season. So the Covid-19 response meant that just a few weeks out from season start, we effectively lost most of our early channels to our markets, and the capacity that remained was priced four times higher than last year. Our airfreight and seafreight streams are quite different product and are managed differently. Seafreight persimmons are sealed in modified atmosphere bags and stored at 0 degrees Celsius – while airfreight is sent at ambient temperatures. While some consignments were able to be sent by air, this season we started bagging and storing persimmons very early on and there was much last minute reorganising.

The start of our season also occurred during the period when independent fruit merchants were closed. This definitely impacted local sales, and some growers did not send smaller sizes to market. Our industry focus is on exporting (around 80% of the crop), however concern for our export markets did this year result in the Council working with 5+ A Day to increase our local promotions. At short notice 5+ A Day prepared some brilliant and vibrant material, with novel recipes or serving suggestions. The programme showcased the versatility, health benefits and convenience of persimmons. Radio advertising was used to create buzz around the new season of persimmons to combine with a social media influencer campaign. Results indicate that the promotions were very successful, reaching over 1.6 million Kiwis, and anecdotal evidence suggests a strong domestic market in 2020.

> **“Radio advertising was used to create buzz around the new season of persimmons to combine with a social media influencer campaign**

As we approach the end of our season, the impression is that our markets were surprisingly responsive to New Zealand fruit so long as our exporters could get it there. Our volume will be somewhat down on last year, which was one of our largest in recent years. In summary, a remarkably normal season looking at the industry level statistics, but what these do not show is the variable impact on individual growers, and the incredible amount of work which growers, packhouses, and exporters had to put in to achieve that ‘normal’ result.

## AVO UPDATE

# Fit for a better world

By Jen Scoular : Chief Executive, NZ Avocado

*I did what we are being persuaded to do, explore New Zealand, as I headed up to Kaikohe to attend the launch by Regional Development Minister Shane Jones for the Provincial Growth Fund (PGF) investment into the Ngāwhā Innovation and Enterprise Park.*

A 975km round trip by car from Tauranga, the journey took over 36 hours and I had never been to Ngunguru or Tutukaka before, which are both stunning little communities on the coast north-east from Whangarei. As always around New Zealand, I marvelled at the sudden change in colour, as the recent rains have transformed dry brown landscapes to sceneries glistening with vibrant green new grass growth.

We have a particular interest in Northland, where over 1,000ha has been planted in avocados over the past three or four years. Our interest is to ensure there is infrastructure to enable further development in the region, including capability from skilled labour for packing and transport from orchard to wharf, and the services that are needed to accompany the production of safe, healthy food.

Some of my horticulture sector colleagues attended a similar function in Nelson in July, the launch of the Horticulture Strategy by Minister Damien O'Connor, which outlined how we collaborate and share to enable the horticulture sector to help pull New Zealand through the post-Covid-19 era.

Another aim of the Horticulture Strategy is to flesh out how horticulture meets the objectives of the recently released Fit for a Better World initiative, launched by Prime Minister Jacinda Ardern. In both there is real recognition of the potential for horticulture to create value and jobs while producing amazing food with care. That care extends to care for our land, our people and our environment.

The avocado industry is undertaking a review to ensure the industry structure we operate in currently is both fit for purpose now, and relevant for future growth. We also want to be fit for a better world. There are so many pressing priorities in normal life, then we add a global pandemic, a potential economic downturn and the start of the export season. New Zealand does pride itself on being agile, and we will all need that agility to navigate the waters ahead.

Our crop estimates are suggesting a 10% increase in volume in the year ahead, and our marketers are well on the way to securing good placement of that crop in Australia and several Asian markets. Nothing right now is certain though, and we will keep abreast of day by day changes in the supply chains and consumer demand in all our markets.

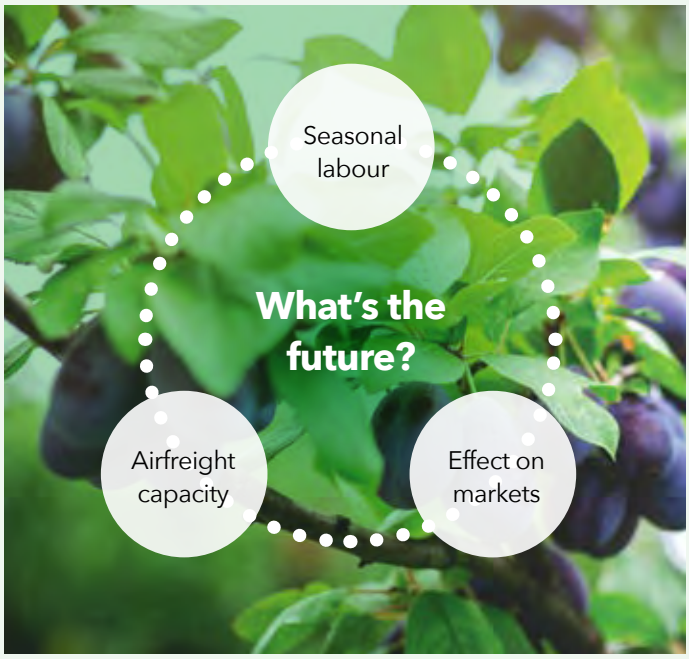
We enjoyed a seamless move from the 2019–20 to the 2020–21 season in the New Zealand market for the first time in many years, not suffering a significant decline in supply prior to the new season supply coming on stream. The wonderful health attributes of avocados will be at the front of our promotional activity to highlight the 19 vitamins and nutrients in an avocado. Delicious and nutritious, and grown in New Zealand – that certainly is a wonderful attribute to have at our fingertips.

# Summerfruit update

By Richard Palmer : Summerfruit NZ Interim Chief Executive

*Whilst the summerfruit industry largely escaped the challenges of the Covid-19 lockdown and global market disruption, the season ahead looks much tougher, with Covid-19 continuing to loom large on the global stage.*

Seasonal labour, airfreight capacity and the effect on markets are all uncertain for summerfruit and other sectors. Personally, the question of reuniting our family in Jakarta has shaped the timeframes for thinking about the Covid-19 recovery: In March we thought maybe July; last week I thought maybe December; now it seems unlikely before mid-2021. When Qantas chief executive Alan Joyce said in mid-July that Qantas was grounding all international flights (except to New Zealand) until mid-next year, it reinforced the thinking that this is not ending in the near-term. He went on to say he thought maybe 50% of international flights might be reinstated by mid-2022, so the effects from Covid-19 keep pushing further and further out.




> **He went on to say he thought maybe 50% of international flights might be reinstated by mid-2022, so the effects from Covid-19 keep pushing further and further out**

Before the next season there have been matters for us to assist with as part of the broader horticulture industry, none more pressing than getting Recognised Seasonal Employer (RSE) scheme workers home to their families. Their struggles resonate with me, so when the Vanuatu Government offered 890 repatriation seats in late June, it was crucial that we made the most of the opportunity. With less than a week to prepare, and the flight options changing only three days out, it was a huge effort on the part of the New Zealand Government, Vanuatu High Commission and the horticulture industry to make it happen. Ultimately 1,044 people made it home courtesy of the Royal NZ Air Force. Subsequently other repatriations are also occurring.

The Covid-19 lockdown period brought the horticulture industry organisations together to focus on managing the issues with government, exemplified by the work done to ensure essential food production continued during lockdown. The development of the *Horticulture Post-Covid Recovery Strategy*, again a partnership between government agencies and industry organisations, demonstrated our ability to come together to focus on critical, common issues. Executing that strategy will take a lot of work from across the industry and it also provides a platform for sectors and regions to launch their own work to play their part in New Zealand's export-led recovery.

Planning for managing the crucial sectoral issues for the 2021 summerfruit season is well underway. As always, weather and other conditions will drive the ultimate outcome, but with recent plantings this season could herald a record cherry crop. Already the Summerfruit NZ Board Labour sub-committee has met several times and is developing options to address the requirement for nearly 7,000 seasonal workers for the harvest across New Zealand. This group has local and national government representatives as well as growers, and already we're firming up some ideas. This includes ensuring we have a

single co-ordinated message and virtual nexus for workers and employers to come together. That work is extremely pressing, as developing alternatives with government is a tricky and lengthy process. Summerfruit NZ, with other sectors and with Horticulture New Zealand, is working with government to identify ways to ensure we have the policies in place to support the harvest and packing of our crops. That will require some different solutions and approaches given the expectation of getting Kiwis into work, and the shortage of backpackers.

> **All sectors are also talking about how we get RSE workers back into New Zealand, a process that would be successfully enabled by a 'Pacific Bubble', one which countries like the Cook Islands are already very keen to put in place**

The RSE scheme and opening the Pacific Bubble, are clearly key parts of New Zealand's role in maintaining the economic fortunes of our region and acting to sustain our regional friends and family. Whilst RSE workers represent less than 20% of summerfruit harvest staff, every person is important, and our sector will continue to act in the interests of RSE workers.

Airfreight work is also underway to understand the likely static capacity, the export demand, and the gap in between. Summerfruit NZ is keeping in close contact with the Ministry for Primary Industries about the challenges ahead, although beyond October no government commitment to supporting airfreight is yet confirmed. Work to identify likely commercial solutions is also in train.

This work all takes place in the context of a national election, the occurrence of which must not be allowed to disrupt the important work of New Zealand's economic recovery.

> **Our seasons wait for no one and getting as much certainty about the ability to harvest, pack, and distribute New Zealand's high-quality, safe summerfruit is one small part in the export led recovery, and of significant benefit to the Pacific region impacted by Covid-19. With a possible record export crop in an uncertain global environment, that domestic certainty is more important than ever. ●**

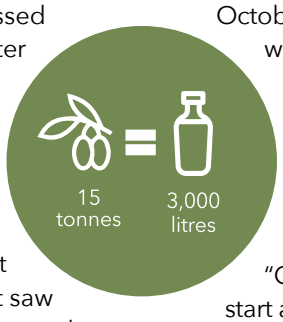
# An Adventure in Olives

*"This is our first ever season in olives — and it's been initiation by fire."*

By Wendy Laurenson

**In mid-March Chris Kaye and Nicole Alexander were gearing up for the first harvest season on their newly purchased olive orchard in Hihi, Northland. Chris says, "We were about to start picking and processing 12 acres of olives and the previous owner and their Italian mentor were set to come and coach us through it…then Covid-19 happened. We were up for an adventure in olives, but we never imagined this."**

However, Chris and Nicole not only made it through their first olive season but have harvested and processed a bumper crop with a high oil yield. "The dry winter and hot dry summer were perfect for olives. We picked 15 tonnes of olives and achieved 3,000 litres of oil, so we've done the hard yards now with a very steep learning curve."




Chris and Nicole were ready for a change from their life in Gisborne and were on a road trip last year looking for possible options when they first saw the property. "We came here for two hours and stayed for three days," Chris says. "We were open to anything anywhere, but ironically I was terrified of horticulture. In my twenties I'd seen horticulture friends of my parents become broken old people, and I didn't want to go there. My background was in farming before going to sea and I'm now with Eastland Port Ltd in Gisborne commuting there week-on week-off for my job as marine manager and pilot."

Nicole's background is in administration. "The appeal of this property was that the previous owners had set it up from scratch with a high spec, so it was purpose built to grow, harvest and process olives. The site also happens to look out over Doubtless Bay and has an established Airbnb for added income."

Chris and Nicole are both keen foodies but had no previous experience with growing olives, so they immersed themselves in research before taking over the property last October. "We spent the first few months getting familiar with the place, and we'd been advised to pick very early when the crop is a third red, a third yellow and a third green. This results in strong flavoured oil which can mellow out over time, whereas oil from overripe fruit will never develop flavour."

## Harvest during Covid-19

"Covid lockdown coincided exactly with our picking start and took out our carefully set-up transition support plan, so we reached out to a local mechanic who had worked with the gear and the previous owners," Nicole recounts. "He came and steered us through the process and we applied to the Ministry for Primary Industries (MPI) to register as a food processor so we could work through lockdown. The previous owners were on call at the end of the phone."

Chris and Nicole employed four local pickers for three weeks and they worked in teams of two from the same bubbles.

"We pick from the ground using picking machines and nets, so two people picked and two cleared the nets, tipping the olives into baskets ready to come into the shed. Chris and I worked in the shed, which we set up to comply with separation protocols."

### Processing the olives

For the best quality oil, olives should be processed within 24 hours of picking. "They start fermenting the moment they're picked so we de-leaf them then they're straight into the hopper to be washed before processing," Chris explains. "They go from there into the crusher, then into the malaxer to be mixed, then the decanter for high speed centrifugal separation, and finally into stainless steel vats where they're sealed from any air with a layer of argon gas. The oil then sits in the vats until we bottle it into dark glass bottles."

Air, light and heat deteriorate olive oil, which is why Chris and Nicole's set-up uses a centrifugal spinner rather than the more traditional hydraulic press. "The spinner means minimal exposure to the air plus it's a lot more efficient," Chris says. Hydraulic presses can do as little as 100 kilos of olives per day whereas we process 150–200 kilos an hour. On an average season, every seven kilos of olives produces a litre of oil, but in this high yield season, five kilos of olives produced a litre of oil."

Chris and Nicole also process olives for other growers. "During lockdown some people didn't realise we would still be processing but we did several crops ranging from 1.6 tonnes down to one bucket for a senior hobbyist, and since lockdown we've processed a few more. The capital investment of a processing plant isn't worthwhile for small growers so third-party processing suits them and is another income strand for us," Nicole says.

### Challenges

Chris found the biggest challenges during lockdown were mechanical breakdowns. "Fingers regularly break off the mechanical pickers, and without the usual services, anything like that took longer or we had to improvise. We also needed a battery charger at some point and couldn't get one locally because we didn't have a pre-existing account."

> "the biggest challenge during lockdown was mechanical breakdowns

### Future Focus

With 3,000 litres of olive oil sitting in vats, Chris and Nicole are about to launch the next stage of their business. "People now want to know the story and origins of their food, and because our olives don't leave the property, we can reassure customers of the quality and provenance of our oil," Nicole says. Some customers already call in to taste and buy our oil but we're not set up for it, so we're wanting to develop a purpose built 'cellar door' to better cater to that. We've also nearly finished a new e-commerce website so customers can order online and choose between our olive varieties Koroneiki, Leccino, Ascalando, Frantoio and J5."

In the meantime, Chris and Nicole are immersed in the annual prune. "Keeping olive trees open reduces their risk of both anthracnose and peacock spot fungi. It's best to prune straight after harvest and also to hard prune 20% of the trees each year to reinvigorate the orchard. Our 850 olive trees are on about 12 of our 15 acres and we graze beef on the balance and on neighbouring blocks."

And Chris is keeping his day job. "This is a great small holding with plenty of layers of interest for us both, and we can provide a quality product. But we're simply aiming for the property to cover its costs at the moment, so every second week I'm away in Gisborne until we have enough other income strands to earn a good living." ●

# Automation and Agritech get Funding Boost

Peter Wren-Hilton, Executive Director, Agritech New Zealand

By Wendy Laurenson

*Automation in horticulture has moved a step closer to everyday grower reality with a funding boost announced in the recent budget. Agritech New Zealand Industry Transformation Plan (ITP) was allocated $11.4 million to support the development of New Zealand's agritech sector.*

Peter Wren-Hilton is executive director of Agritech New Zealand, a membership funded industry organisation with a key role in leading the growth of our country's agritech capability. "It's hugely exciting that the government has prioritised agritech. We've been working closely with the government for 12 months, and as agritech includes technology serving all of the primary industry sector, horticulture will benefit significantly from the funding. Agritech is a key driver to improving productivity, quality, sustainability and profitability across the entire horticulture value chain. It is providing alternatives to traditional growing methods and revolutionising the sector."

## Global reputation

New Zealand has a global reputation as a premium food producer and our leading edge agritech has grown out of solutions to some of our own production challenges. "Horticulture produced an estimated total of $9.5 billion (including $6.2 billion in exports) in 2019, while the agritech sector contributes an additional $1.5 billion annually to New Zealand's goods exports," Peter says. "Our skills in agritech are now recognised and sought after globally, so the sector has the potential to grow significantly with positive impacts both commercially and environmentally."

## Robotics, automation and sensing academy

With the growing demand for food production, one of the main challenges both here and internationally, is the ever-increasing demand for labour coupled with an ever-decreasing supply. "This has been accentuated by Covid-19, and a likely solution is greater use of automation especially for pollinating, thinning, picking and weeding," Peter explains. "Therefore, one of our recommended initiatives to government was the establishment of a robotics, automation and sensing academy here, and we're currently talking with industry stakeholders, including Robotics Plus and Zespri, for input on what that academy might look like."

Peter says one of the challenges of our agritech sector has been its lack of cohesion. "We want to encourage the agritech industry to become more collaborative so the sector can make the most of the current growth opportunities. An academy could help by providing a physical premises and creating a 'NZ Inc.' approach rather than organisations operating in their individual silos and catering mainly to our domestic market. We can help connect innovators, investors, regulators, researchers and interested public so we can all benefit."

## Developing skills and talents

Another ITP funding priority is developing skills and talents. "We're heading into a time of a major on farm change to more digital content and context, and with that will come the need to upskill employees to work with automation. The idea of automation in the primary industries initially met with some push-back, but now there is the realisation that it can have some advantages. Automation can complement rather than replace existing jobs, and can lead to jobs that are better suited to our human capabilities and with better pay."

Peter says this will subsequently remind New Zealand that we need to focus on premium production and practices. "Smart use of technology will enable industry and companies to move beyond volume and towards value in their output and exports, helping to move New Zealand up the value chain globally."

## Water

Another focus for the agritech funding will be New Zealand's water resource challenges, spot-lit by this year's dry summer. Agritech New Zealand has already started working with Australian organisations in a Trans-Tasman Water Challenge that is exploring how to best improve irrigation and storage and reduce run-off and leaching.

## Solving global challenges

Our agritech could also contribute to solving some global challenges. In order to meet the nutritional needs of up to ten billion people in the world by 2050, food production will need to increase drastically. "New Zealand clearly cannot feed the world, but we have the ability to develop production-improving technology that could have a

global impact. In the process, agritech can help improve sustainability with more efficient land use and better environmental outcomes."

## An industry in its own right

Agritech is an industry in its own right and international eyes are on New Zealand to help lead the way. Peter points out that we have some specific advantages in developing agritech. "We have strong primary industries with a small market size that is ideal for testing technologies. Using ingenuity to find solutions is ingrained in our DNA. And we can respond relatively quickly from a regulatory and policy perspective, which allows for new approaches to be developed and tested. If we can effectively use these advantages, we stand in a good position to increase our share of the global market plus help overcome some of the challenges of our geographic isolation."

## Impact of Covid-19

Consumers want to know the story of the food they eat, and this has been accentuated since the arrival of Covid-19. "One of the key priorities of the Agritech Industry Transformation Plan (ITP) is to ensure New Zealand's agritech story reflects the global agritech landscape post Covid-19. We've already established an agritech story resource, and while our borders may be closed, it's very important people know that our agritech sector is accessible and open for business. Export sales have been lost and market plans put on hold, so we need to support the sector both here and offshore in new ways. To that end, we've been part of initiating several significant agritech events and launches that began in July, both online and in person, to keep things moving forward."

## Agritech background

Peter Wren-Hilton's background of 20 years in the tech business in London as well as living and working in Bangalore, India and Silicon Valley in California, has furnished him with an extensive global network of agritech contacts. He has therefore been able to introduce representatives from different international agritech agencies to key sector players in New Zealand, including government, so they can get a better understanding of agritech global networks. "Global agritech business is now massive and we can be a significant and respected part of that. This is our time to step up."

For more info see
**www.agritechnz.org.nz**

# TECHNICAL

## THE LATEST INNOVATIONS AND IMPROVEMENTS

# Strategies for chemical crop management

*Good chemical thinner results essential for managing the crop if access to thinning labour is limited.*

By John Wilton : Deciduous Fruit Specialist, AgFirst

**One of the probable effects of the Covid-19 epidemic on our orchards will be a shortage of skilled people for hand thinning. It is therefore critical that this spring we push the chemical thinning boundaries to minimise the need for hand thinning labour.**

The message coming back from the market as far as we can assess is that the returns for the 2019–20 crop may fall short of expectation due to limited access to many traditional markets, and increased costs. This means cash flows for the coming crop may be squeezed.

Historically, average hand thinning costs are usually around twice that of average pruning costs, but vary markedly among varieties and blocks depending on the level of fruit set and the effort required to bring fruit numbers down to optimum crop load.

Where the chemical thinning has been effective, hand thinning can be minimised, particularly for lower value varieties with slim profit margins.

## Review last year's results

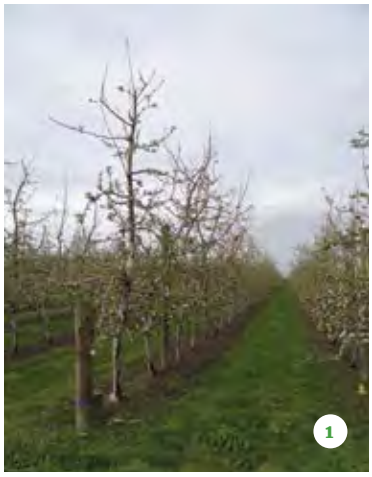
From the chemical thinning point of view last spring threw us a number of curveballs.

The first one was the widespread hailstorm early in the bloom period which took out significant amounts of early flower. Trees compensated for this crop loss by setting higher levels of smaller, late flower fruit.

The second curveball was around 100mm of rain in the middle of blossom. The effects of this event on fruit set were unknown, resulting in a cautious approach to blossom thinner programmes.

My observations of early fruit set indicated heavy fruitlet drop, even in the absence of blossom thinner application.

Weather conditions over the budbreak period were cool, and behaviour of other deciduous trees indicated that budbreak was running later than normal.






1 *Typical flowering pattern for Royal Gala types here. Lower tree is very advanced compared to upper tree. The objective of a dormancy breaker is to compress bloom to bring upper tree bud development into line with lower tree.*

2 *Full bloom on this Fortune plum on 7 September 2011 coincides with early bud break on Scifresh. Early budbreak in Fortune plum is a good indicator to commence blossom compression dormancy sprays on the more advanced bud break apple cultivars.*

3 *Fortune plum now in early petal fall stages by 14 September 2011, one week after full bloom.*

Because of the cool conditions, budbreak and flowering was stretched out, leading to a huge spread of blossom and fruitlet stage.

Stop-start springs, and stretched out blossom and fruit set stages, make obtaining satisfactory results from chemical thinning programmes difficult.



Following the blossom period, we went into a period of warm sunny days with cool cloudless nights. Early fruit development was rapid under these conditions, and because daytime conditions maximised photosynthesis and the cool nights minimised respiration losses, fruitlet retention was strong. Post blossom thinner response was often weak, leading to some massive hand thinning bills once it became obvious crop loads were excessive.

We cannot afford a repeat of this situation again this year because we may not have the resources available to enable heavy hand thinning.

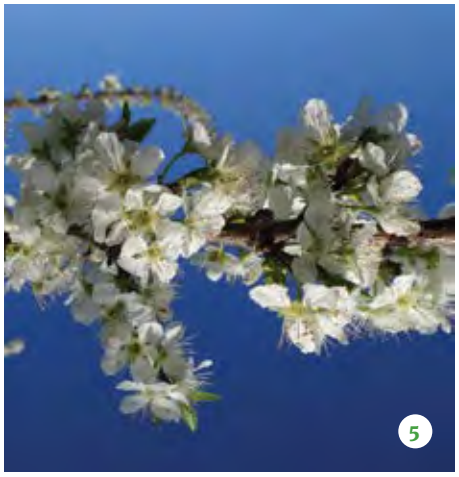
We need to think now about how we can avoid similar problems this year.

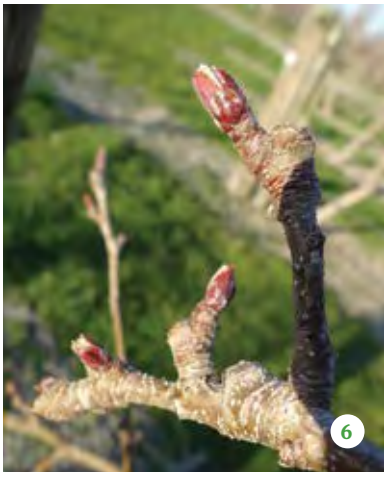
## Blossom compression

Using dormancy breakers capable of compressing budbreak and bloom periods is the first step in setting up the trees for easy crop management. Compressing the bloom period reduces the spread of blossom and fruit set stages, leading to much more even fruit maturity. This is capable of cutting out several selective picking passes as well as making the chemical thinning programme more effective.

Your objective for using a dormancy breaker should be bloom compression, rather than advancing bloom with the objective of an earlier harvest period.

Where the objective is an earlier harvest period, it's necessary to apply dormancy breakers at the beginning of the application window. Application at this time is more likely to extend rather than compress blossom periods, and because leaf buds tend to be less responsive than fully matured flower buds, leaf cover may be sparse giving less protection to flowers and developing fruitlets. This may increase russet in sensitive varieties.





4 *Black Doris was at white tip on 7 September 2011. It moved to full bloom in one week.*

5 *Full bloom Black Doris plum 14 September 2011.*

6 *Beginning of budbreak on Scifresh 7 September 2011. Fortune plums were in full bloom at this time and later budbreak apple varieties were not yet at budbreak.*

For blossom compression, dormancy breakers need to be applied at the end of the application window, which in Hawke's Bay is mid to late August.

Benchmarking your dormancy application dates against budbreak in other deciduous tree species, e.g. willows, or summerfruit, will give you a good guide for timing sprays on pipfruit and cherries.

If the spring is late, these early budbreak species are a good indicator to show that dormancy breaker application needs to be delayed.

Incidentally, if the blossom compression has really shortened up the blossom period, be very cautious with aggressive blossom thinner programmes such as ethephon, or when using it in combination with NAA (naphthalene-acetic acid) or ATS (ammonium thiosulfate). I have seen crops disappear when these aggressive blossom thinners have been applied to blocks with very compressed bloom stages.

## Getting post blossom thinners to work well

Last spring we had some disappointing results with metamitron thinners, but we learnt a lot from this experience. Factors involved in their poor performance were:

- Large spread of fruitlet stage.
- Rapid fruit growth through the application window leading to later than optimum application timing.
- Bright, sunny weather and cool nights over the application window.
- Insufficient spray volumes used.
- Ineffective unless around 70% of the canopy volume is sprayed.
- Low blossom density in blocks with biennial bearing problems.

Interfruit competition, and competition between fruit and shoot growth are key factors in determining the thinning effect of post blossom thinning programmes. I think this applies to benzyladenine (BA) as well as metamitron programmes.

Excessive blossom thinning can, therefore, render post blossom thinners ineffective.

## Strategies to consider when using post blossom thinners

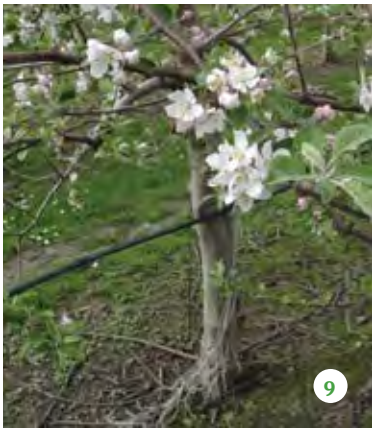
Be wary of using aggressive blossom stage thinners because these may drop interfruit competition below critical levels for good post blossom thinner response.

While it's necessary to consider spring weather conditions and the impact they will have on thinning response, don't be spooked by adverse spring weather events, particularly where blossom periods are lengthy.

Apple and pear trees are very resilient when it comes to setting fruit. If the early flower fruit is lost the tree compensates by increasing later flower fruit set.

Irrespective of initial flower numbers, trees generally have pretty good mechanisms for setting the crop loads they can carry in terms of maximising their seed potential. A few years ago, we did some thinning trials with Scifresh in which whole tree blossom cluster counts were done, followed by fruit set numbers. When the data was expressed on a specific crop load basis relating trunk cross sectional area (TCA) to blossom clusters and fruit set, the range of blossom clusters to TCA was more than two-fold, but fruit set per $cm^2$ TCA was similar across all trees.







7 *Fuji floral buds just past green tip on 14 September 2011. No sign of any leaf bud activity. Figures 7 to 9 show a budbreak and subsequent development sequence for Fuji.*

8 *These Fuji are just coming into pink at the end of September. This block was just past green tip of floral buds, mid-September. See figure 7.*

9 *These M9 inter-stem Fuji have reached early bloom stage in the lower tree at the beginning of the second week in October. Nine days after the early pink stage. Note there is still not much growth from leaf buds.*

10 *Second leaf Scilate on CG202 just past green tip by the third week in September 2011. Correct dormancy breaker timing here for blossom compression would have been end of August.*

The sparser the blossom, the more fruits setting in bunches of two fruit or more. This markedly increases the hand thinning effort required.

As a general rule, normal fruit set after natural dropping has ceased is usually two to three times that necessary for a high-quality crop, so unless there has been a very effective chemical thinning programme, hand thinning effort and costs will be high.

Be very careful with aggressive blossom thinners applied relatively early in the blossom period. If these are overdone there may not be sufficient interfruit competition for good post blossom thinner response. The other downside of removing too much early fruit is that the tree will compensate by setting more poor-quality late flower.

The possibility of increased russet from blossom thinner programmes should not be overlooked.

## The post blossom thinner programme

The post blossom thinners do the heavy lifting in your chemical thinning programme.

Even if initial fruit set levels appear low, it is a mistake not to apply post blossom thinners because fruit numbers that appear sparse at the small fruitlet stage become far too many once serious fruit growth gets going.

Because post blossom thinner response is very dependent on interfruit competition, there is usually little thinning response on light crop trees.

The other important feature of post blossom thinners is that they select for fruitlet strength causing the poorer quality fruit to shed, leaving behind the fruit with the greatest potential in terms of fruit size.

Weather conditions following application have a huge influence of post blossom thinner response. Sunny days with very cool nights result in weak post blossom thinner response. Conversely, cloudy days with warm nights enhance response.

With both the BA thinners and metamitron, warm night temperatures appear to be the main driver of thinning response.

In recent years I have noticed a tendency among fruitgrowers to fritter away good chemical thinner opportunities, resulting in later than optimum application timing, leading to poorer response.

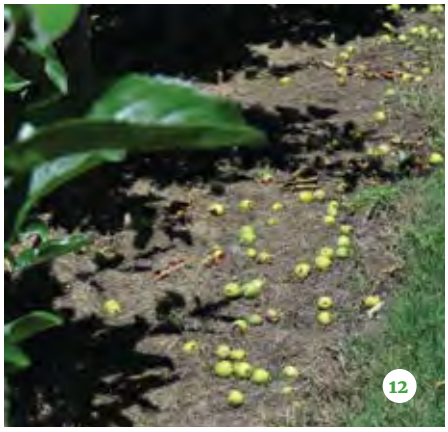
This may be because we are underestimating the rate at which fruit sizes under optimum conditions for fruitlet growth.

In our variable climate, it's a good rule to grab the first application opportunity once fruitlets reach the beginning of the application window.

For the BA products, this is usually around 8 to 10mm fruitlet stage, and for metamitron, about 10mm. Addition of NAA to BA will bring the application window forward to around 6 to 7mm fruitlet size. There are some reports starting to appear in the literature indicating that while addition of NAA lifts the BA thinner response, this combination may suppress fruit sizing, particularly in pears. Where experience shows small fruit size has become a problem, it may be prudent to avoid this combination.

Post blossom thinners need very good spray coverage for good response, and do not generally perform well when applied as low volume sprays.

Inadequate coverage and wetting have been a big factor in the failure of post blossom thinner response. Incidentally, during our development work with



11 *Annual wood shoot buds on Scilate planted on MM116 are not showing any bud movement yet by mid-September. Dormancy breaker application on young trees for budbreak compression needs to be several weeks later than mature trees of the same variety on dwarf rootstocks.*

12 *BA/NAA plus metamitron tops only. Fruitset was 1.5 fruit per cluster. Thinnings on the ground shows the level of hand thinning effort necessary to achieve crop load.*

13 *Metamitron applied as 37g Meteor® late with high rate of surfactant. Fruit set was 1.18 fruit per cluster. The small fruit are the effect of the metamitron and the few large fruit were hand thinned. Hand thinning effort is small compared to the BA/NAA row in figure 12.*

metamitron we standardised spray volumes to apply one litre of spray to 10 cubic metres of tree row volume.

| Spray volumes required are: | |
|---|---|
| 3rd and 4th leaf canopies | 500 to 600l/ha |
| Full canopy intensive orchards | 1500 to 2000l/ha |
| Older semi-intensive orchards | >2000l/ha |

Applications made later in the application window will need higher water rates because the canopy has more leaves.

Orchard experience shows that once thinner concentration thresholds are met for thinning activity, increasing water volumes, rather than active ingredient concentrations, is a safer way to go where more thinning response is required.

## The double spray option — metamitron thinners

In recent seasons we have observed a move to double spray application at lower concentrations rather than a single application at a top end label rate. The double spray option is giving a more reliable thinning response with less risk of blowing holes in the crop and over thinning parts of the canopy.

The objective of the double spray strategy is to lengthen rather than deepen the level of photosynthesis suppression. It takes four to six days after application for metamitron to achieve its maximum photosynthate suppression, so the timing of the second application needs to be around six days after the first.

Planning a two-spray approach also reduces risk of an adverse thinning result. The key is to make the first application early in the response window, then the weather conditions that follow this application determine if a second application will be required e.g. if a warm cloudy weather system with abnormally warm nights follow the first application the second spray may not be needed.

On the other hand, if the weather systems give bright sunny weather with cool, clear nights following, the second spray is definitely needed.

In situations where blossom periods are spread out in hard to thin varieties or blocks, the two-spray approach is usually required. To be effective, both sprays need to cover at least 70% of the canopy with emphasis on directing most of the spray to the upper tree.

## Fear of over thinning

This is a major reason for inadequate thinner response.

Certainly, there are instances of over thinning with chemical thinners, but over thinning occurs much less often than under thinning. For every example of over thinning, there are 15 to 20 examples of under thinning.

Where chemical thinners have worked well, fruitlet numbers should appear sparse at the time of the chemical thinner response drop. If there are lots of fruit easily usable at this stage, the hand thinning effort will be huge.

Where fruit set has been poor there are many factors that can be responsible, including:

- Pollination problems and biennial bearing due to weak flower in the 'off' crop year.
- Frost should not be overlooked.
- Poor nutrition, particularly nitrogen deficiency, is often responsible for inadequate fruit set.
- Excess shoot vigour and dense canopies with poor light levels.
- Water-logged roots. This can be a major problem on certain sites and has often been associated with erratic thinner response.

Check these other factors before you jump to the conclusion that chemical thinner took the crop away.

# MetService Update La Niña Watch

By Georgina Griffiths : MetService Meteorologist

## Eyes on the tropics

The El Niño Southern Oscillation (ENSO) climate system is an important climate driver for many parts of the world. Because New Zealand lies in the mid-latitudes, on the edge of the tropics, ENSO can influence the types and frequency of weather maps we see here; but New Zealand typically only sees large impacts on our wind flows, rainfall and temperature during intense El Niño or La Niña events.

ENSO is a tropical climate system operating along the equator in the Pacific Ocean. For the first half of 2020, the El Niño Southern Oscillation (ENSO) was neutral – neither El Niño nor La Niña.

Sea temperatures at the surface, as well as the sub-surface, running either side of the equator between Australia and South America, are indicators of the ENSO oceanic state. The most commonly used oceanic indicator is the "NINO 3.4" index **(Figure 1)**, which captures sea temperature deviations in the central Pacific Ocean **(Figure 2)**.

**The NINO3.4 Index**

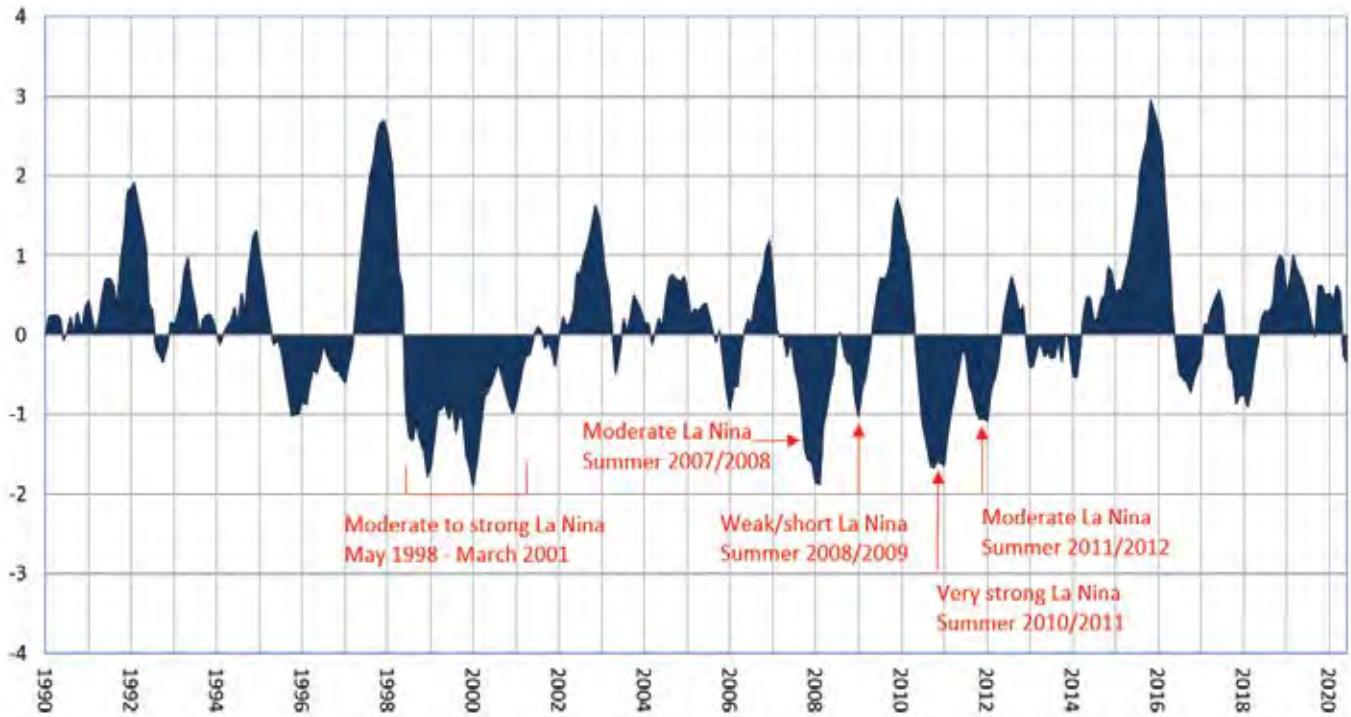



***Figure 1:*** *The NINO3.4 Index. This index tracks sea surface temperature anomalies (deviations from normal) in the equatorial Pacific Ocean between latitudes 5N and 5S, and between longitudes 120W and 170W. When the sea surface temperatures are below normal (cooler) by an average 0.8C across a 5-month period or more, La Niña conditions are in place. When the sea surface temperatures are above normal (warmer) by an average 0.8C across a 5-month period or more, El Niño conditions are in place.*

**NINO3 SST Index**

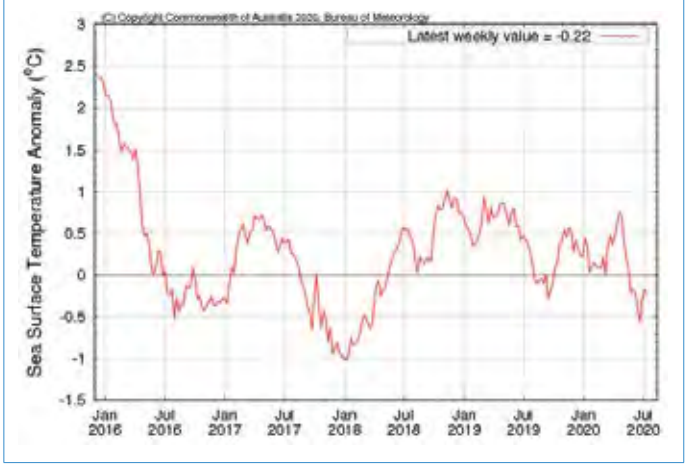



*Figure 2*

Sea surface temperatures in the equatorial tropical Pacific Ocean cooled during June (trending towards La Niña thresholds), and were below average in the eastern Pacific region by mid-July. In the central Pacific area, sea surface temperatures remained near average (at the time of writing).

Most global commentators have now issued a "La Niña Watch", with the chance of La Niña forming in 2020 currently sitting around 50% – roughly double the average likelihood. Over half of the major international climate models predict that this cooling will approach or exceed the La Niña threshold during spring.

## What might this mean for New Zealand?

Through late winter (August), weather maps in the New Zealand region will still remain strongly influenced by our 'winter' climate drivers, namely the Tasman Sea and the Southern Ocean. The Tasman Sea has been the major player during June and July for the increased northern New Zealand rainfall tallies (see **Figure 3**), and this is likely to continue through into August.

In contrast, the South Island has seen some decent southerly outbreaks with fairly heavy snowfall recently, and this is driven out of the Southern Ocean weather systems.

However, the main effect of La Niña as we head into spring will likely be to encourage High pressure to sit at higher latitudes than normal. The usual response would be to see intermittent Highs blocking (sitting) over the South Island, with an enhanced frequency of easterlies over northern New Zealand.

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**Rainfall accumulation**

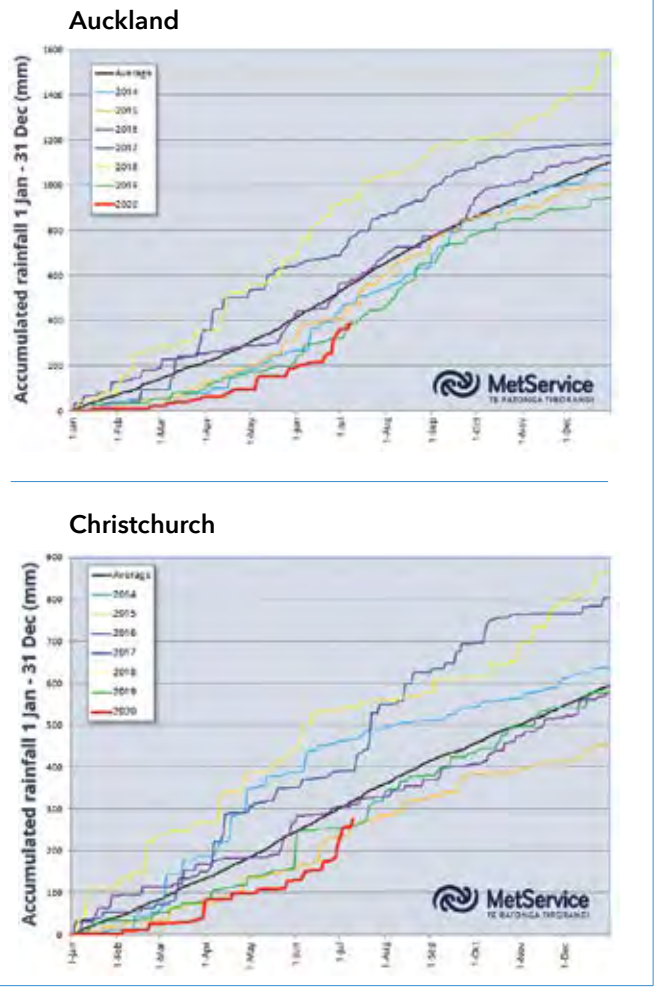



***Figure 3:*** *Auckland and Christchurch rainfall accumulation plots, both derived from airport data. The red line is the 2020 rainfall tally so far (as at 10 July 2020).*

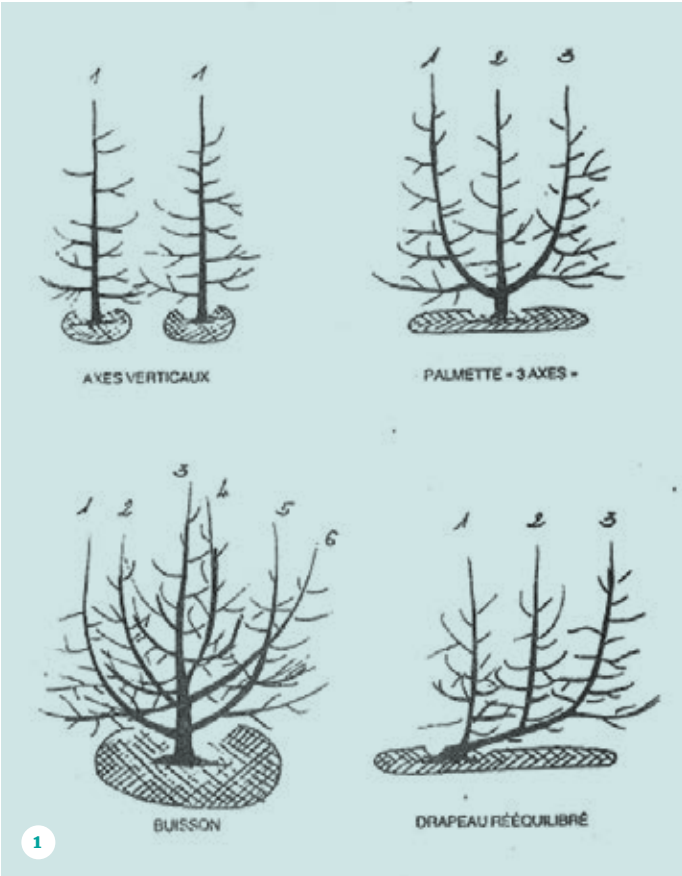
# Canopy Management — looking back, looking ahead

*This article reflects on changing pruning and canopy management styles in apples and considers some of the drivers of change. We then discuss new scanning technology that is improving our ability to measure and act on crop and canopy variability within our orchards.*

By Jack Hughes : Fruition Horticulture

## A fleeting history

Apple pruning styles keep evolving. From around 50 years ago, the industry transitioned from multi-leader trees planted at 400–500 trees per hectare to MacKensie single leaders at densities of 500–667 trees per hectare.




*Different axis tree forms.*
*From Apple Tree Management, JM Lespinasse (1980).*

Back then, the pruning style was to 'cut back to fruit' – that is removing one-year-olds to leave the older wood with fruiting spurs. Unlike today, this type of heading back was considered acceptable even if wood was upright. Of course, this style gave undesirable responses resulting in more upright growth and trees became 'stroppy' in their tops and shaded in the bottoms.

Then Jean-Marie Lespinasse introduced the axis system and the concepts of renewal pruning (Figure 1). We 'unlearned' heading back in favour of letting branches develop naturally and produce lots of fruiting spurs. Fruiting branches would typically droop below the horizontal and eventually accumulate too many weak spurs. In the renewal style, these branches would be shortened back to horizontal wood to remove surplus fruiting wood. Branches could also be removed completely if they were too big or crowded. The introduction of structural pruning and removal of big branches in tree tops received something of a 'shock horror' reception at first. However, this new approach was transformational and raised the bar on productivity. At that time, most trees were growing on moderately vigorous rootstocks so the fruitfulness/vigour balance of trees was often pushed towards too much vigour.

The introduction of more dwarfing rootstocks helped with addressing the excess vigour problem along with the next evolution in pruning/training style. Branches were trained into pendant orientations and allowed to grow long. Vegetative uprights were still removed and there was more attention to the number of spurs and their quality. Weak and underneath spurs are targeted for removal. Matching bud counts to target yields was considered and applied to varying levels of precision depending on people's preferences and safety margins.

*Regrowth from 'stub' cuts*

*A trimmed canopy at Johnny Appleseed*

The approach with detailed pruning cuts is the next item on our whirlwind history. Previously cuts had to be flush and leaving 'coat hangers' was a big no-no. Now 'stub' or 'bevel' cuts which leave buds for the regrowth of replacement shoots is tolerated or even promoted (Figure 2). A 360° change.

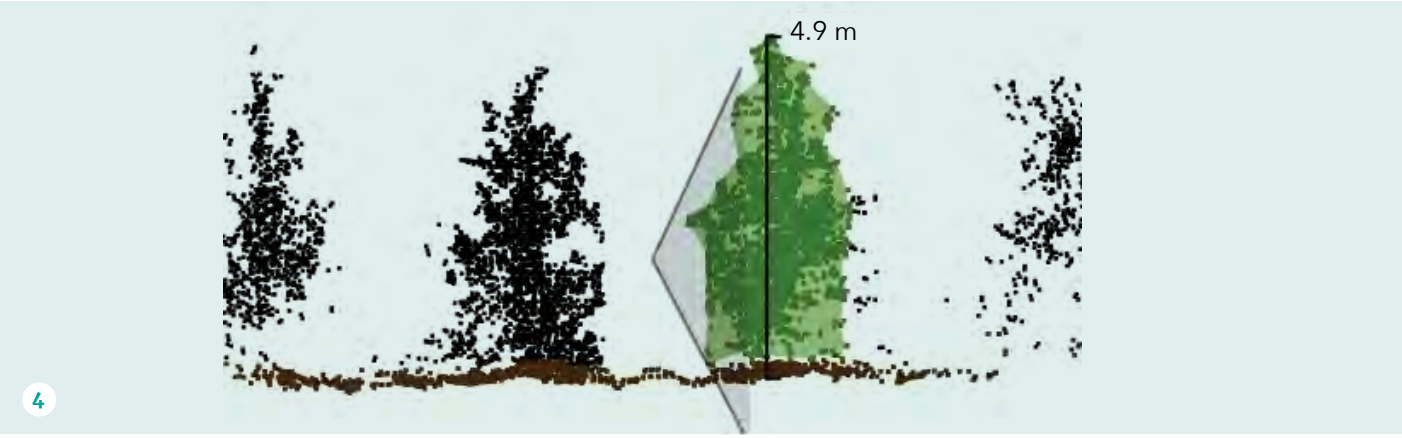
Previously, pruning has been considered a one-time, dormant season job. These days the value of summer pruning to improve the canopy light environment and regulate tree vigour is more accepted. Summertime stub cuts achieve this with minimal regrowth along with the frequent development of fruitful buds behind the cuts. So a new type and timing of cuts is achieving a beneficial outcome with minimal adverse side effects. These changes have required some 'unlearning' of previously accepted ideas.

## More canopy means more crop, right?

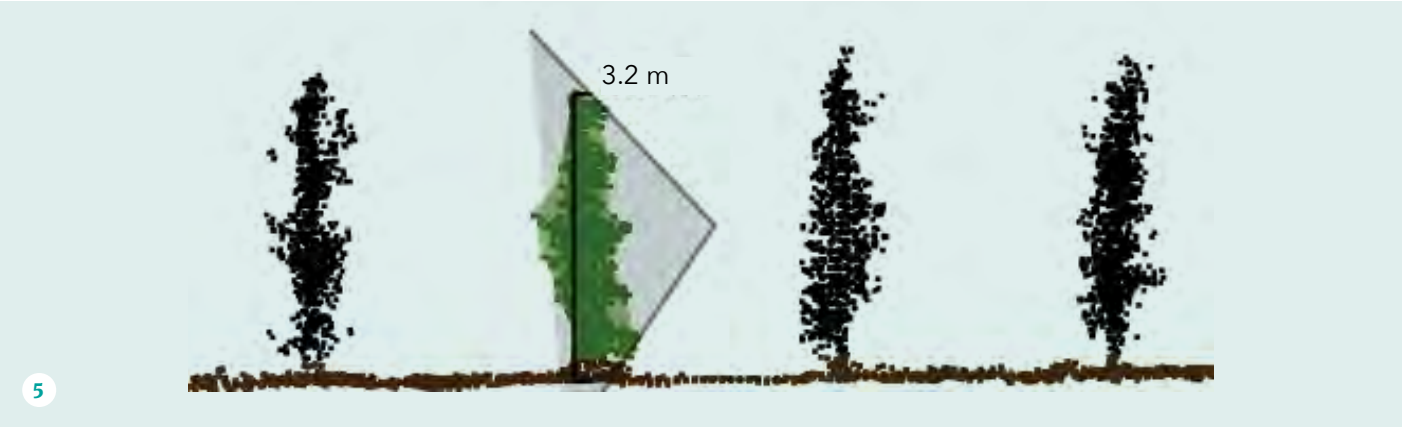
The move to narrow, planar canopies whether they be V's, twin stems, 2Ds, FOPS (Future Orchard Planting Systems) or their emerging variants is fueled by the productivity gains on offer. We used to equate more canopy with more yield but have now learned that this ain't necessarily so. The introduction of cab tractors required the removal branches that protrude into the row alley to give safe and damage free access. Despite fears, this narrowing up of the 'row end profile' hasn't usually diminished yield. Often quite the opposite. Tony Waites of Mr Apple has observed a pattern amongst his blocks where the greater the visibility down the row (i.e. the further you can see), the greater the yield.

Mechanically trimmed canopies are also now beginning to demonstrate a positive cost/benefit track record (Figure 3).

The trimmer sets a uniform canopy profile and the mid-summer timing minimises regrowth. A useful proportion of buds behind the cuts will become floral to add to the benefit.




*Canopy geometry in a modern 3D canopy*




*Canopy geometry in a 2D canopy*

## Platform friendly canopies

Robot ready canopies is a new phrase that nicely captures the need to modify canopy design to accommodate the prospect of robotic harvesting. We're yet to see robots match the economic performance of skilled picking gangs, but many think it will happen. The potential disruption to labour availability caused by the Covid-19 pandemic is, however, forcing a rethink. 'Platform friendly' canopies will be highly desirable if we are forced to make more use of 'less able bodies' for pruning, branch training, fruit thinning and picking in our orchards. A platform compatible canopy has to be uniform in profile and thin in depth to ensure easy access for all tree work.

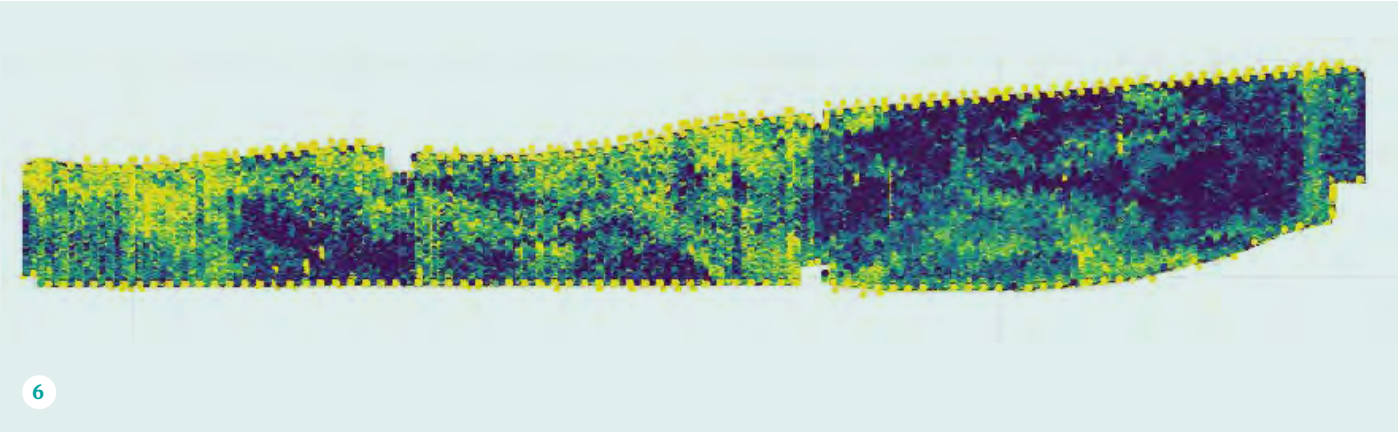
## Canopy geometry

The planar canopies have much smaller canopy volumes than their three-dimensional (3D) predecessors, often by less than half. Canopy density is a qualitative canopy description that until now has been difficult to measure. As canopies get denser, fruit colouration and dry matter decreases. Over time, spur strength and ability to set fruit diminishes. So canopy density does matter.

So an objective, accurate and repeatable measure of canopy density is required to enable comparison of blocks and, equally importantly, to measure the variation within blocks. New 'tech' has come of age to do this. Scanning with LiDAR provides an accurate and objective way to measure canopy geometry. The **LiDAR** instrument fires rapid pulses of laser light at the target. A sensor on the instrument measures the amount of time it takes for each pulse to bounce back. Differences in return time are used to calculate distance and location and generate 3D images.

The LiDAR images in Figures 4 and 5 show canopy height (the height bar), canopy volume (the green shaded area). Canopy density is determined by whether the millions of laser beams either pass through the canopy or strike the tree. Density is simply expressed as the percentage of 'hits' and varies from 40% in open textured canopies to 70% in denser ones.

Scanning for crop load and estimation is done after hand thinning is finished. This mid-season timing is also ideal for canopy measurement because shoot growth has mostly finished by then. So it's two birds with one stone. There is still more work to do to calibrate the data – i.e. to understand how 'open' a canopy needs to be to give uniformly high-quality fruit, and where the 'shady' tipping point that results in too much inferior, low dry matter fruit starts.



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*LiDAR scan of canopy volume in a 7ha block of apples*

Figure 6 shows a heat map of canopy volume of a 7ha block of 3rd leaf apples. The soil types in this block vary considerably and this is already showing through quite strongly in the way the trees are growing. The darker blue areas show higher vigour larger trees, and the yellow areas show where the trees are struggling. The trees are already uneven, and without management intervention this will likely get worse over time and affect the block's performance.

You'd be right to think that this is only a pretty picture unless it can be used to do something useful. This is where software tools from precision agriculture come into play. So called prescription maps create data files that tells GPS (Global Positioning System) enabled equipment where to, say, spread fertiliser or spray chosen products.

There is flexibility in deciding how many different zones are required. For example, we might select three zones (low, moderate and high vigour) and apply supplemental fertiliser to just the low vigour areas, and shoot growth inhibition sprays (prohexadione calcium) to just the high vigour areas. Other more permanent changes could be considered like adding another irrigation line to the worst 'yellow' areas, or reducing micro-sprinkler output in the vigorous 'blue' areas to even-up vigour.

A rule of thumb in broad-acre agriculture is that 'within block' variation has to exceed 15% to justify taking action. That's probably a conservative starting point for horticulture where there is a lot of money left on the table if we have underperforming areas. Variation is closer to 50% in this example. Repeat scans over the following seasons will show how well the chosen action is working.

## Summing up

The evolution of pruning styles discussed at the start of this article evolved over *decades*. The rapid development of scanning technology is bringing some great canopy and crop management tools *within years*.

When discussing growing systems and ultimate yield potential, Richard Hill of Mr Apple makes a good point: "we haven't got there yet". I agree and reckon that 'getting there' won't just be about which growing system proves to be the best, but how well we can identify under performance within blocks and actually fix it. ●

*Disclosure: Fruition Horticulture (Hawke's Bay) Ltd, Green Atlas and Applied Research Technologies are collaborating to introduce scanning services to horticulture in New Zealand.*

*Images and data obtained from Green Atlas Cartographer operated by Fruition.*

*Ricks Crasborn's rut re-contouring machine*

*Grass establishment seven weeks after the land shaping treatment was installed in late May*

# Drainage problems in a drought?

*It's fair to say that most Hawke's Bay orchardists aren't fretting about drainage problems in one of the driest years on record. However, a three-year drainage trial on four orchards is producing some interesting results that prove inadequate drainage can cause problems even in a dry year.*

By Dan Bloomer

Smart Tools to Improve Orchard Drainage (STOD) was initiated after the particularly wet harvest season in 2017 highlighted an ongoing issue with drainage in existing orchards. When water can't escape quickly after rainfall, low areas in the interrow can stay wet for long periods of time. This leads to saturated soils and wheel ruts that develop from tractors, sprayers, or picking platform movements.

Aside from the orchard access issue, wheel ruts and the slippery surface pose a safety risk to staff using ladders. Tim Egan of Illawarra Ltd in Gisborne said the problem was so bad they were concerned their pickers wouldn't return. The presence of wheel ruts also causes sprayers to sway side-to-side, slow down or get stuck, affecting the control of pest and diseases. And at harvest, bouncing bins in and out of ruts causes significant fruit bruising – all the money spent and the product ruined at the last step!

Growers have many ways of treating wheel ruts. Some fill ruts with topsoil or lime, others deep rip the centre of the interrow or outside of the wheel tracks. Another popular solution is Ricks Crasborn's machine (see Figure 1) which cultivates, cambers, and re-seeds the interrow with grass in a single pass. However, despite these interventions, ruts are still a problem and many orchardists using ripping or filling techniques have to re-do them annually. So what is the alternative for existing orchards?

Land levelling is an established practice for creating a draining grade in cropping paddocks or new orchard developments. Using high accuracy GPS (global positioning system) technology, a map of needed soil cuts and fills is created to shape the paddock to ensure water doesn't get trapped. In existing orchards, soil movement is limited to one direction (up and down the row), and the depth of cut is limited to minimise the difference between the interrow and the tree row. We refer to this version of land levelling as land shaping and it is one of the treatments being trialled in the STOD project.

Since applying different treatments, we have been monitoring progress visually and measuring the wheel tracks with a 'rut meter' device we designed and built. We can determine the depth of ruts reforming along

the rows by depth and percentage. Analysis of four treatments at one orchard block showed that the redevelopment of ruts has varied markedly. Rut measurements were done immediately after treatment (August 2019) then twice since (January and June 2020). The 'rip only' treatment did not eliminate all the ruts to start with, as seen in the bar graph. Ruts have increased more in 'rip only' rows than other treatments in the following measurements as well. The percentage of severe ruts (>100mm) over the whole row length has increased by 5%, and moderate rutting (70–100mm) has increased by 17% in the latest measurement.

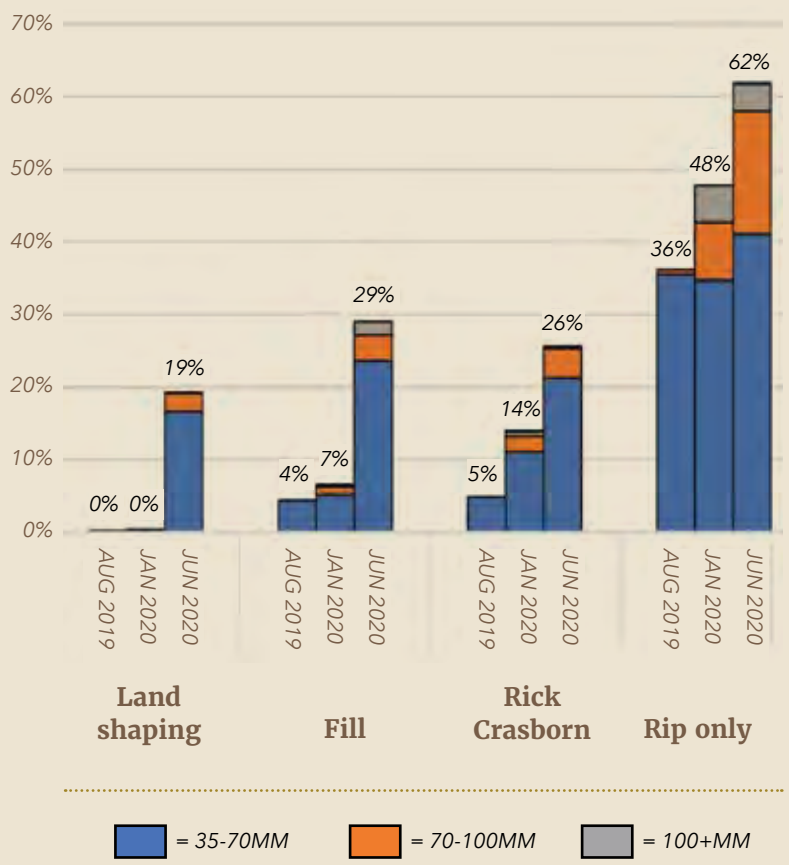
At this stage after a dry season, there is not a great difference between the land shaping, filling and Crasborn cultivator treatments. We continue monitoring for another year and will report as we go.

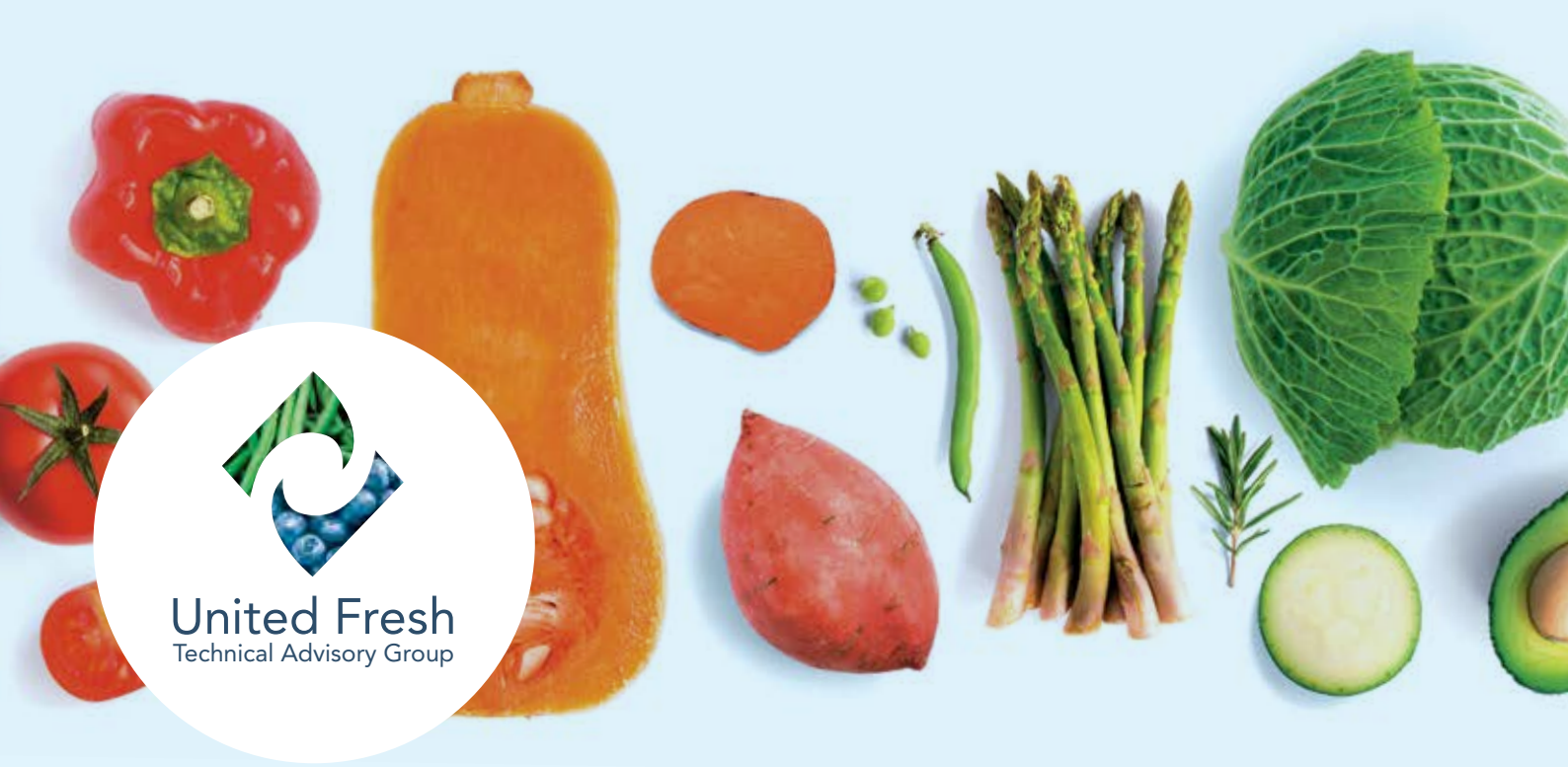
> **A project field walk around the three Hawke's Bay orchard sites reinforced how important it is to get the drainage right from day one**

Andy Jones, assistant manager of T&G's Evenden Orchard showed the group a block adjacent to the drainage trial which had tile drainage installed and land levelling completed before planting. To date he has had no problems with rutting.

Gisborne orchardists are invited to come and view the trial at an Illawarra field walk in August (date TBA). If you're interested in coming along, please send us an email: **info@landwise.org.nz.** A further trial is planned for installation in Nelson in the coming spring.

**1 Percentage of Row profile with Rutting > (x) mm**
*(Hawke's Bay Orchard 2).*





United Fresh
Technical Advisory Group

## Fresh Produce Industry Traceability

# Have your say today!

**United Fresh is leading a three-year Sustainable Farming Fund project, funded by the Ministry for Primary Industries, looking at Traceability in the domestic fresh produce industry, which is now at the consultation stage.**

We have recently developed Draft Produce Industry Traceability Guidelines which are now available on our website **www.unitedfresh.co.nz** for feedback.


Traceability is increasingly important in ensuring the safety of domestic and international food supply chains. Currently, traceability in the New Zealand domestic fresh produce supply chain is not working to a common standard. Every produce supply chain in New Zealand varies in its management of internal traceability and external traceability, with external traceability working well in some cases, or not at all in extreme situations.

The key audience for this project is the domestic fresh produce supply chain. This encompasses growers, wholesalers, retailers, and other participants including research organisations, consultancy agencies, etc.

We are sharing the Draft Guidelines with all members of United Fresh New Zealand Incorporated and the wider New Zealand fresh produce value-chain (including wine) to gather feedback which will feed into the final Guidelines.

## Ways to provide feedback

We need your feedback on how the Draft Guidelines would be helpful to your organisation. Your feedback will be incorporated in the final guidelines which will be published in early 2021.

**Here are our questions for you:**

- How easy is it to follow the Draft Guidelines part of the document (section 2)?
- What improvements do you suggest?
- How will these Draft Guidelines help you review and implement effective interoperable traceability?
- How interested would you be in participating in a **webinar** workshop?
- How interested would you be in participating in a face-to-face **workshop**?
- What other aspects of achieving effective interoperable traceability would you like to see included in the Final Guidelines?

**Here are the ways you can provide your feedback:**

- Send an email to **info@unitedfresh.co.nz**
- Call Anne-Marie Arts, United Fresh Technical Advisory Group on **027 279 5550** to discuss
- Complete our **online survey** on the Sustainable Farming Fund page on our website under the Technical dropdown here **https://www.unitedfresh.co.nz/technical-advisory-group/sff**

**We look forward to receiving your feedback on or before 31 AUGUST 2020.**

Find out more about United Fresh on our website **www.unitedfresh.co.nz** and follow us on LinkedIn

# Get your orchard off to a strong start

*The answer to fast orchard establishment, future high yields and good quality fruit lies in healthy soil biology right from establishment.*

Recent trials in newly established Hawke's Bay apple and Northland avocado orchards show how orchard establishment is improved, tree growth increased and the resultant trees are stronger with the help of the right soil biostimulant.

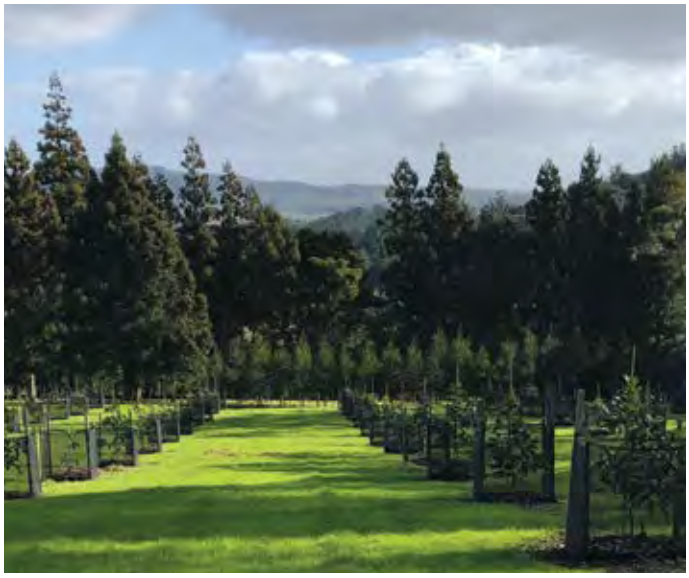
The apple orchard trials were conducted using BioStart's soil biostimulant, Mycorrcin, to improve soil biology in three newly planted orchards of SweeTango, Ambrosia and Premium Star apple varieties.

The treated apple trees were assessed for the key measures impacting on the future yield capability of the tree including: trunk cross-sectional area (TCA), number of feathers, branch positioning and branch cross-sectional area at two years. These criteria reflect the fact that trees with bigger trunks and more and thicker branches can carry more apples, leading to earlier and bigger commercial yields.

Overall, the Mycorrcin treated apple trees had bigger trunks with 20–48% increases in TCA compared to standard trees **(Table 1)**. Tree height was increased by 5–16% and the number of feathers (or fruit-bearing branches) was increased by 13–60%. It was noted that the whole architecture of the trees was more uniform, adding to the ability of the tree to produce a higher yield earlier.

**Table 1: Increase in Growth in Mycorrcin Treated Apple Trees**

| Variety | Year | Trunk Cross-sectional Area Increase ($cm^2$) | Lift in Feathers (No. branches/ tree) | Increase in Tree Height (m) |
|---|---|---|---|---|
| Ambrosia | Yr2 | 29% | 48% | 16% |
| Ambrosia | Yr3 | 48% | 41% | 14% |
| SweeTango | Yr2 | 20% | 25% | 5% |
| SweeTango | Yr3 | 31% | 60% | 9% |
| Premium Star | Yr2 | 28% | 13% | 14% |
| Hass Avocado | Yr1 | 21% | | |
| Hass Avocado | Yr2 | 30% | | |



*Mycorrcin treated avocado trees on the right*

Further analysis of the Premium Star trees showed that the Mycorrcin treatment produced more branches in the 0.7–1.1 metre trunk region (1.6 versus 4.1, a 152% increase) and that the lower branch cross-sectional area of the treated trees was 58% larger.

> "Tree height was increased by 5-16% and the number of feathers by 13-60%

The avocado orchard trial began at establishment of an orchard in Maungatapere (Northland) in November 2018. Mycorrcin applications were made at planting and then to coincide with the spring and autumn root growth flushes in avocado trees to maximise the impact of the beneficial soil microbes Mycorrcin stimulates.

Mycorrcin was applied to Hass trees (on Zutano root stock) at planting, with similar applications being made in autumn (April 2019), the following spring (October 2019) and autumn (April 2020). Ten untreated and Mycorrcin-treated trees were assessed for trunk cross-sectional area (TCA) over the following 18 months. The application of Mycorrcin increased the TCA of avocado trees by 21% and 30% at 12 and 18 months after planting, respectively **(Table 1)**.

These trials demonstrate that regular applications of the soil biostimulant Mycorrcin in newly planted apple and avocado orchards substantially sped up establishment, increased growth and improved tree architecture.

Mycorrcin is available in standard and certified organic form. To order call Biostart Ltd **0800 116 229** or visit the website at **www.biostart.co.nz**

# Go carbon neutral with MSC Mediterranean Shipping Company

*MSC is the world's first shipping line to offer customers a complete carbon neutral programme.*

For years, MSC has been investing heavily in low-carbon technology to help meet the targets to decarbonise shipping.

Now New Zealand exporters and importers can share this vision and take responsibility for their emissions by joining the MSC Carbon Neutral Programme, created in partnership with South Pole.

The programme complements our strategic approach to sustainability and massive investment in reducing emissions and minimising the environmental impact of our fleet.

### Partnering with South Pole

Through the partnership with South Pole, the world's leading developer of emission reduction and renewable energy projects, MSC's customers have access to premium climate action projects that improve lives, livelihoods and landscapes for communities around the world.

The MSC Carbon Neutral Programme supports projects that deliver measurable benefits aligned with the United Nations Sustainable Development Goals.

### Accelerate the transition to a carbon neutral supply chain

The MSC Carbon Neutral Programme enables you to accelerate the transition to a carbon neutral supply chain, taking responsibility for your cargo's environmental impact and compensating through an offsetting programme.

The emission reduction projects help fight climate change and bring wider sustainable development in local communities, such as poverty reduction, health improvements and access to clean water.

### Get your $CO_2$ emissions compensated in a few steps

- Our team of experts help calculate the emissions generated by the volume of cargo moved.
- Select one of the projects, part of the MSC Carbon Neutral Programme, to compensate the unavoidable emissions of the marine and inland transportation of your goods. You may decide to offset all cargo shipments processed for you by MSC or only a few.
- South Pole will provide a "Verified Carbon Units Certificate of Retirement" delivered by VCS (Verified Carbon Standard) Registry, and a climate action certificate attesting the amount of $CO_2$ compensated by investing in this programme.

Further information on the MSC Carbon Neutral Programme can be found at **www.msc.com/carbon-neutral**


**msc.com**


# AsureQuality's new look

*AsureQuality provides the broadest range of food assurance services in New Zealand, with over 100 years' experience working closely with our food and primary production sectors. It's been 13 years since the two state-owned enterprises ASURE and AgriQuality merged to become AsureQuality, and after a delayed launch due to COVID-19, their team are excited to finally share their new look.*

The new branding is designed to better reflect AsureQuality's business today, their shared role for Aotearoa, and the services they deliver. Along with the new look branding, they have also developed a new Purpose statement – *Helping Aotearoa shape a better food world*.

A common theme amongst AsureQuality's people is the passion they feel for their role and the personal connection they have to their sector partners and the industries they serve. Discussions throughout the business show high levels of personal alignment with this Purpose – connections to what people do every day and the feeling that AsureQuality is 'of and for' New Zealand, is particularly strong.

AsureQuality's chief executive officer, John McKay, explains "People in New Zealand's primary production and food sectors work hard every day to uphold what Aotearoa stands for in food – a higher standard of quality and safety. As a company, we are proud to work with them to help build and protect this enduring trust in food. Our new Purpose captures our reason for being as a business, inspires our team and guides us in the decisions we make every day."

"We're very excited to launch our new branding and Purpose which really resonate with our people. Together, we've talked a lot about our New Zealand-ness and our deep sense of responsibility to do the right thing for food. The introduction of Kaitiaki Kai to our brand represents our shared role in the Aotearoa New Zealand food and primary industry sectors," John says. "Kaitiaki Kai literally translates to guardians of food, but it has a much deeper holistic meaning. It captures the guardianship role, but also the outcomes of successfully delivering in that role. Kaitiaki requires collaboration and working with others; sharing knowledge resources and skills so that everyone benefits – not just in the immediate future but for generations to come. Actively demonstrating Kaitiaki Kai demands we bring a personal sense of commitment to our partners – New Zealand's farmers, growers, producers and manufacturers, and the food world."

AsureQuality launched their new look in June, along with a new website which provides a better resource for their customers. As they are such a broad and diverse business, the new branding will progressively roll out and become more visible over the coming months.

*Duncan Smith from Hydralada Company is happy to hand over the keys to T&G Global Orchard Manager Lachlan McKay*

*The latest Hydraloppa Pruner is powered from the hydraulics of the Hydralada machine. Powerful 45mm cutting capacity.*

# T&G Global take delivery of twenty new Hydralada platforms for pruning

*T&G Global are pleased to take delivery of twenty new Hydralada elevating work platforms in time for pruning, winter 2020.*

These machines have been distributed around the various orchards all over Hawke's Bay and are now being used for pruning apple trees. Each machine is fitted with a new Hydraloppa hydraulic pruner which has the power to cut up to 45mm branches with ease. This takes away the strain associated with using hand pruning equipment and increases worker output while significantly reducing fatigue over the winter pruning season.

"Pruning from a Hydralada machine is like walking tall around the orchard," says Duncan Smith. "It is like an extension of the worker", he says. "With all controls foot-operated the worker's hands are left free to work the tree whether it's pruning, thinning young fruit, tree training, or picking."

Over many years T&G Global have proved this pruning method "just simply works", says Lachlan McKay. T&G Global have always operated a fleet of Hydralada machines some of which are now over 30 years old. The reliability of Hydralada means the overall running cost is very low and one person pruning from a Hydralada machine can do the equivalent work of four to five pruning from the ground using step ladders. This year T&G Global decided it was time to add a fleet of brand new machines with more orchards coming into production and further developments on the horizon.

> **"One person pruning from a Hydralada can do the equivalent work of four to five pruning from the ground**

A Hydralada machine remains one of the most productive methods of working in the trees on apple orchards. Hydralada Company also supplies multi-person platforms which certainly have their place in some situations. However, a worker is independent when working from a Hydralada compared to a multi-person platform that can often restrict worker output with several workers confined to one machine.

You can visit the **www.hydralada.com** website and see the latest in technology with an innovative range of specialist equipment, including orchard platforms, vineyard machinery, and frost control machines.

# Vayego® 200SC Insecticide

*A new tool for apple growers to control codling moth, leaf roller caterpillar and bronze beetle.*

With a brand-new registration, the Bayer insecticide Vayego is now available to Pipfruit growers.

"Providing excellent efficacy against codling moth, leaf roller caterpillar and bronze beetle, Vayego offers a new versatile and flexible option for growers to incorporate into their seasonal pest management programme," says Marc Fox, horticulture market and territory manager for Bayer.

Vayego 200SC is a liquid formulation containing the active ingredient tetraniliprole, a Group 28 Diamide insecticide which is an active ingredient new to the Pipfruit industry.

With over 4,000 trials performed globally, as well as a rigorous trial program in New Zealand, Vayego has demonstrated excellent efficacy across the lepidoptera and coleoptera species targeted. These trials have shown that Vayego has some attractive properties that contribute to its versatility, safety, strength and performance. One of which is the fact that it is active on all three of the life stages of codling moth, from eggs to adults. While the main control comes from larval ingestion, eggs can also be affected if laid on treated leaves and fruit, or if they have already been laid and are then treated with Vayego.

Rapid feeding cessation is also a feature giving strength to codling moth control. Larvae lose muscle control, become immobile and cease feeding immediately after application, giving the benefit of less damaged fruit. Vayego is also locally systemic which ensures distribution throughout the leaf, helping to maximise coverage.

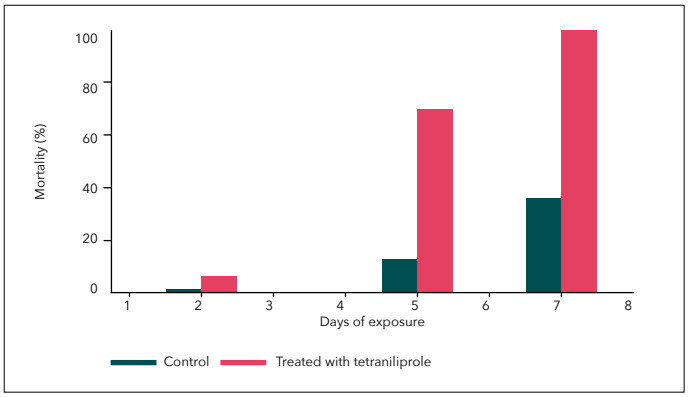
"A further feature Pipfruit growers will find beneficial is the label claim for bronze beetle control," Marc adds. "Efficacy was proven by Plant & Food Research in bioassay work, before being backed up by field trials over the last few years. As a third string to its bow, this makes Vayego a very versatile option for pest control for Pipfruit growers."

Vayego is recommended to be used from seven days post petal fall through to early December at a rate of 15 mL/100 litres of water as a dilute spray to the point of runoff. If concentrate spraying is used, then the rate must be adjusted accordingly.

*Bronze beetle damage in apples.*

For best practice resistance management, it is important that Vayego is used as part of a seasonal pest control programme that incorporates other chemistries with different modes of action. Marc says "resistance management guidelines state that Vayego should only be applied to one generation of codling moth. By targeting the petal fall to early December period, Vayego will only be applied to generation one, which fits into the recommended guidelines, and will protect insect management for the future."

Over many years of trials, Vayego has also shown a high level of crop safety, both when applied on its own or when combined with a wide range of tank mix partners.




*The mean percentage mortality of field-collected bronze beetles in the untreated control and after exposure to fresh residues of tetraniliprole in a laboratory bioassay. The tetraniliprole was applied at 15 mL/100 L to apple leaves at the Plant & Food Research orchard in Hawke's Bay. Error bars denote SEM.*

For more information on using Vayego in Pipfruit, contact your Bayer territory manager or merchant representative or visit **cropscience.bayer.co.nz**


# We're with you *in the field*

**'WE'RE WITH YOU IN THE FIELD' IS AFFIRMATION OF OUR COMMITMENT TO PROVIDING 'MORE THAN PRODUCTS' TO OUR CUSTOMERS.**

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***Talk to us***

*To show our support for your business we're open for business. To find your Regional Territory Manager go to:*

***cropscience.bayer.co.nz***

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# Invest your time, not your money – training is now FREE* with the Primary ITO

**The government has announced significant new financial support for training. This means there will never be a better time for you or team to earn formal qualifications.**

The new Targeted Training and Apprenticeship Fund (TTAF), also known as 'Free Trades Training' package will pay the fees of all Primary ITO apprenticeships, and training across the vast majority of Primary ITO's programmes. This includes fruit and vegetable production, and other related programmes.

Additionally, the Government has announced an 'Apprenticeship Boost', which promises to pay employers up to $16,000 per apprentice to either employ or retain apprentices over two years.

The Free Trades Training is open from now until the end of 2022, which is why there will never be a better time to train.

At Primary ITO, we recognise that the most valuable thing you can invest in your people is your time – and the Free Trades Training and Apprenticeship Boost can make doing that a bit easier.

For a long time, our industries have been crying out for skilled people. This is a once-in-a-lifetime opportunity to bring in those people and train them with the most up-to-the-minute skills, without having to pay fees. At a time when we all want to see people transitioning from other industries to primary sector careers, this should be an enormous incentive.

## So let's get on and grow Aotearoa

**Letsgrow.co.nz**

PrimaryITO
KNOWLEDGE TO GROW

*Conditions apply.