The ORCHARDIST®

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HORTICULTURE NEW ZEALAND

New packhouse shows confidence

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JUNE 2022

It's time we talked about GST

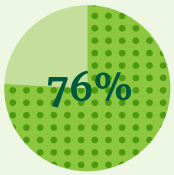
We are all concerned about the incredibly fast increase to the costs of living, particularly food prices.

Barry O'Neil : HortNZ president

Many are calling for the government to take actions to address this – one action that has been suggested is to remove the Goods and Services Tax (GST) from food, as other countries have done.

We see many examples of developed countries where food costs are much lower than in New Zealand. What is not so clear is whether the lower cost of food in these countries is due to the tax systems they operate under, or due to greater competition in their food retail systems along with a significantly greater number of consumers giving greater scale and purchasing power for retailers. Or is it both?

A recent poll in New Zealand indicated 76 percent of the population want GST to be removed from food. So why have successive governments, including this one, said they won't be doing that?



A recent poll in New Zealand indicated 76 percent of the population want GST to be removed from food

Economists say we have one of the best GST systems in the world, being simple, with low compliance costs to administer. Our GST system is considered to be efficient and importantly, doesn't cause anomalies as seen in countries with differential regimes. For example, Value Added Tax (VAT) is added to chocolate-covered biscuits but not chocolate-covered cakes in the United Kingdom, which led to a long legal dispute about whether Jaffa cakes were cakes or biscuits.

New Zealand has had GST since 1986. It was introduced at a rate of 10 percent, then rose to 12.5 percent before settling at 15 percent in 2010. New Zealand collected $26.39 billion from GST in the 2017 financial year, constituting about 30 percent of all tax collected.

If GST was removed from food, to achieve the same tax take, the GST rate on other items would need to increase by approximately two percent. Alternatively, income tax rates would need to increase. This, of course, assumes the government would not be prepared to reduce its expenditure!

So why do targeted reductions on GST, in this case food, become so complex? Google VAT rates on food in Ireland to understand some of the challenges they have faced in trying to create tax distinctions between foods. Would processed foods be exempt? Would fizzy drinks be exempt? Would fish and chips from a takeaway be exempt? Should restaurant and hotel meals also be exempt? These real questions have caused countries that have removed GST from food to end up with significant complexity, leading to increased compliance costs.

We must also take into account that Ireland's top personal tax rate is 52 percent to make up for this revenue shortfall.

Removing GST on fresh fruit and vegetables seems like it would be a simpler option. But then, the debate and arguments begin; such as: If you can freeze or can it, is it still fresh? And why only horticulture products? Why not all perishables such as dairy, meat, seafood and eggs? And if my product is made from fresh, why can't that be included? Legally, even this approach becomes difficult to manage.

There is often an emotional aspect to the argument when we discuss this, so it is important to think about what we seek to achieve in removing GST from food, especially fresh, healthy food. Is it about getting good food to those who can't afford it, so helping these people to have healthier diets? That's a good start for me.

In 2018, a Tax Working Group said an exemption for food would have an impact on lower-income households but would give more money back to higher-income earners and households.

They calculated it would benefit a decile one household by $14.58 a week but that it would benefit a decile ten household by $53.03 a week, due to their greater purchasing power and the fact wealthier households are already able to buy plenty of good, healthy food.

Some experts in this debate have concluded if the driver is about trying to achieve social aims, then don't do that by messing with GST. Compliance costs would be too great and it would be far better to support these families directly, by using the welfare system or even making food stamps available for healthy food.

Research led by the University of Auckland found that removing GST for fruit and vegetables would result in shoppers buying around half a kilogram more fruit and vegetables, per household, each week. Not earth-shattering or overly convincing to me.

At the centre of this debate is the reality that, overall, food is very expensive in New Zealand. We only have to look at our butter and cheese prices as an example – even though Fonterra argues it applies international prices to the New Zealand market.

> **“At the centre of this debate is the reality that, overall, food is very expensive in New Zealand**

So, is the real problem with New Zealand's high food prices the lack of any real competition? Large, populated countries such as the United States and the United Kingdom have much more competitive food markets with more players at wholesale and retail levels, easier serviceability and the ability to source year-round fresh produce from countries and counties that are close by, keeping prices down. Enormous competitive entities, arising from more favourable business models and huge numbers of customers.

I think this is more likely to be the case, but I welcome your thoughts on this.

What I think we can be fairly confident about is that our growers, who are struggling to get a reasonable price when supplying New Zealand's supermarket duopoly, won't end up with any more coin in their pockets if GST is removed from fresh fruit and vegetables. And after supermarkets have covered their costs of administering a more complex system, would there actually be any cost savings passed onto their customers?

Kia kaha.

Stepping towards a sustainable workforce

New Zealand's dependency on productive, healthy primary industries – and perhaps more importantly, its people – has never been clearer. But ironically, the shortage of skilled workers in our primary sectors remains at an all-time high.

Nadine Tunley : HortNZ chief executive

As part of the 2022 Budget, the Government announced a further $230 million injection for the Apprenticeship Boost Programme and an extension of the programme until the end of 2023. The funding will go towards training programmes and supporting a further 24,000 apprenticeships.

> **The funding will go towards training programmes and supporting a further 24,000 apprenticeships**

While the apprenticeship boost is a starting point for alleviating skill shortages and labour pressures, it only goes so far in addressing what's a pan-sector issue: the need for a sustainable labour pool and succession planning.

The latest Situation and Outlook for Primary Industries (SOPI) report forecast that horticulture export revenue will rise by nearly 5 percent to $6.9 billion for the year to 30 June 2022. This continued growth trajectory will not be achievable without substantial investment in our people.

Attracting New Zealanders into horticulture was always going to be a challenge.

The seasonal nature of the roles, the rural locations, the family and lifestyle commitments – these are just a handful of reasons New Zealanders are less likely to opt into horticulture than their backpacking or migrant counterparts.

Our industry is not alone in this dilemma.

The ORCHARDIST

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The challenge now is to work together and make a concerted effort to not only retain our 60,000-strong workforce, but to grow it. Industry has shown a tremendous commitment in tackling this so far:

- HortNZ developed and released the PickNZ job board in September 2021 to fulfil employers' need to find seasonal workers. Since the job board went live, more than 33,000 roles have been advertised, from highly skilled positions to fruit picking vacancies.
- The GoHort Career Progression Manager (CPM) network has proven itself as an effective vehicle for strengthening horticulture career pathways too. Long-term employment rates have improved and industry's collaboration with polytechnics and universities across the regions has resulted in a steady uptake of horticulture training and courses. More than 5,000 New Zealanders have been placed into training or employment as a result of the CPM network.
- The Recognised Seasonal Employer (RSE) scheme continues to hold a pivotal role in meeting seasonal employment demand, supporting not only the growth of New Zealand's horticulture and wine industries but Pacific economies and permanent jobs held by New Zealanders. Industry's relationship with the Pacific will continue to be key for future proofing our sector in the years to come.

> **The apprenticeship boost is just a small step in what is an ongoing journey to secure our most valuable asset – our people**

On the technology front, growers are investing in systems and equipment to become more sustainable, efficient and profitable. Automation will not only remove labour-intensive tasks but create a career path and skilled roles for those with technology and people management capabilities. Employers are increasingly recognising the importance of a strong internal work culture too and the impact that has on attracting and retaining staff.

The apprenticeship boost is just a small step in what is an ongoing journey to secure our most valuable asset – our people.

Industry has the opportunity to shape a bright future for itself, but to do that we must continue to work together, to innovate and find new ways of attracting and retaining future talent, so our industry can take advantage of fresh thinking and future opportunities. ●

YOUR LEVY AT WORK

INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD

Natural resources and environment

Michelle Sands : HortNZ strategy and policy manager

Otago Regional Council policy statement

The Otago Regional Council released its recommendations on the Section 42A Hearing Report of the Resource Management Act (RMA) on 4 May 2022. The reports were prepared on a topic-by-topic basis and provide recommendations on submissions to the hearing panel. Submitters now have until 29 July to prepare their own evidence in support of their submissions and in response to the recommendations. Horticulture New Zealand is currently reviewing the s42A recommendations and will be preparing industry and planning evidence, as well as legal statements.

Horizons Regional Council NPSFM 2020 freshwater process

Horizons Regional Council has been consulting on long-term visions and values for freshwater over April and May. The consultation is part of the first step in developing a framework for freshwater management that achieves the requirements of the National Policy for Freshwater Management (NPSFM) 2024. HortNZ has provided feedback, emphasising the value of food production and growing, the need to provide for domestic food supply (as well as the other benefits) and has indicated support for growers making their own submissions.

Consultation on Climate Change Adaptation Strategy for Aotearoa

The Climate Change Adaptation Plan looks to adapt and minimise the impacts of climate change. It sets out current efforts to build climate resilience and a proposed multi-year work programme. The Ministry for the Environment leads this work.

> **“ HortNZ has prepared a submission on behalf of all growers, highlighting the importance of horticulture in New Zealand’s transition to a low emissions economy**

HortNZ has prepared a submission on behalf of all growers, highlighting the importance of horticulture in New Zealand’s transition to a low emissions economy by providing options for meeting New Zealand’s emission reduction targets should other initiatives not proceed at the necessary pace. Also outlined in HortNZ’s submission are options for the way New Zealand adapts to changing climate, bringing new opportunities for horticulture to expand into other areas as regional climates shift.

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Ahumāra Kai Aotearoa

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Consultation on Freight and Supply Chain Issues Paper

The Ministry of Transport is consulting on the draft Freight and Supply Chain Strategy. The strategy looks to identify what is required to ensure a well-functioning, sustainable and reliable system over the next 30-plus-years. The strategy will help to inform investment decisions by central and local government and focuses on four key areas:

1. Low emissions
2. Resilience
3. Productivity and Innovation
4. Equity and Safety

HortNZ is supportive of the Freight and Supply Chain Strategy and made some key recommendations:

- Incentive and guidance for small growing operations transitioning to low/zero emissions.
- More emphasis on climate change adaptation throughout the transport network – particularly coastal roads.
- Development of a national freight and supply chain business continuity plan.
- Port sector reform.
- Filling critical shortage of truck driver vacancies by a more accessible and flexible pathway to heavy vehicle driver licences.

> HortNZ will continue to engage with the Ministry of Transport

HortNZ will continue to engage with the Ministry of Transport on the strategy that considers the horticulture supply chain and transport system.

Freshwater Farm Plan Regulations in development

The Ministry for the Environment (MfE) is drafting new Freshwater Farm Plans regulations to give effect to Part 9A of the Resource Management Amendment Act 2020. Part 9A sets out, at a high level, what Freshwater Farm Plans need to cover, which land uses are captured (including horticulture) and that they must be audited and certified. The regulations will include more detail on the criteria for Freshwater Farm Plans, for example the content requirements, who can audit and certify the plans and where and when they will be required across the country. Regulations are expected to come into effect at the end of 2022.

- MfE is engaging with primary sector, Māori and environmental non-governmental organisations (NGOs) on elements of the proposed regulation design. HortNZ is participating in engagement workshops and our key focus is highlighting the importance of industry assurance programmes like GAP (Good Agricultural Practice) to be recognised in the regulation to audit and certify Freshwater Farm Plans for horticulture growers.

Finding the balance between motherhood and career

Elaine Fisher

"What could be better? I love berry crops and working with a beautiful crop is a draw. They make people happy and they are healthy too," says plant scientist Molly Shaw of Berryworld Ltd.

Molly is in a role she loves because she deliberately chose to continue to work part-time while raising her two children, who are now 11 and eight.

Born in New York State, Molly came to New Zealand with her structural engineer husband and 18-month-old son in 2012.

"When you hear the words New York you think of the city, but the state is large and the part of the country where I grew up reminds me of north of Auckland with its rolling hills, and green fields with cows and trees between," says Molly who is also a member of Women in Horticulture.

Molly's father, a GP, decided in his 50s to retrain as an electrician, and her mother, who has a biology degree and was a primary school teacher, became a full-time mum for the family of four girls.

"When the last of my sisters left home, I watched my mum fail to go back to her career, from which she had been away for more than two decades. While I saw she had not lost touch, she had lost confidence. That reinforced to me not to give up my career when I had children."

It was Molly's father who encouraged her to follow her interest in plants and attend Cornell University, a state-sponsored research university in New York state, which offered a plant science degree.

"Cornell is a big extension university where, in addition to research and teaching, a lot of the professors work with farmers and carry out research of benefit to them."

It was field trips with those professors, in particular her favourite professor, berry specialist Dr Marvin Pritts, that inspired Molly to pursue a similar career.

To do so she needed a master's degree. Reluctant to spend any more time than necessary studying, Molly completed both her undergraduate and master's degrees in just four years. "I wouldn't advise anyone to do that. You never get those years of your life back. I didn't do an OE, Peace Corps or any of those things most young people do."

Molly Shaw enjoys New Zealand's great outdoors

For eight years after graduation, Molly worked as a fruit and vegetable extension educator. After the birth of her first child, Molly appreciated how critical it was for her to have a life outside the home, and returned to work part-time.

"The realisation hit that I hadn't travelled as a younger person and perhaps now, while the baby was 'portable' it was time to do so."

The devastating 2011 Christchurch earthquakes provided work opportunities for her husband as well as a work visa for Molly, enabling the couple to begin a new life far from home.

Molly has no regrets about the time she has spent, and continues to spend, raising her children, but she acknowledges that motherhood has affected her career. It took perseverance and courage to finally find a part-time job as an agronomist with Zealandia Horticulture in 2012, and with Berryworld in 2020.

"If at 18 I had known the questions to ask, I would have had more insight into my future. I grew up in an all-girl family and was naive in that I thought there would be fewer barriers as a woman in the workforce now. While it's easier than for previous generations, it's still not easy."

And barriers there were. Although Molly appreciates New Zealand's more generous maternity leave and a culture that values parenthood and work/life balance, she nonetheless found it hard to find a role which suited her family life and provided opportunities for her to grow professionally.

"While one issue is juggling the responsibilities of parenting and a career, another challenge is finding a workplace culture where the skills often brought by women (facilitation, negotiation, cooperative problem-solving) are appreciated and rewarded. I've had to really grow in my ability to back my own opinions and stay engaged during conflict, but in my opinion it's worth it as those skills are important in other areas of life as well.

"As a mother working part-time, you are never going to win on the number of hours you work. At times you will feel like you are neither a great mother nor a great employee. I really encourage women to think about the other things they bring to both roles, and that staying employed is an investment in their future – despite the high cost of childcare."

In her current role with Berryworld, Molly is managing the Strawberry Foundation Stock Unit.

"Strawberries are vegetatively propagated, which means there is all kinds of potential for viruses and other nasties to pass from mother plant to daughter plant and accumulate over the generations, to the detriment of quality and yield.

"To counter this, Berryworld keeps a stock of mother plants in a clean greenhouse. They are handled with great care and virus tested in multiple ways. They are the foundation stock that the strawberry runner growers start with each year. Four generations down the line, those daughter plants bear the fruit crop for strawberry growers in New Zealand."

> **"I really encourage women to think about the other things they bring to both roles, and that staying employed is an investment in their future**

Molly is also involved in pest control and plant nutrition and thoroughly enjoys working on production challenges with growers too.

Her advice to young women planning their future is: "Find a subject you love and a job where, as a woman and potentially a mother, your edge is based on the skills you bring, not the number of hours you work." ●

To keep up-to-date with Women in Horticulture, its news and activities, and join the membership database, email **info@women-in-hort.nz**. Everyone is welcome.

The world is full of pests and diseases that we don't want in New Zealand. The pre-border parts of our biosecurity system aim to keep those threats offshore and prevent them from arriving in New Zealand

A guide to New Zealand's biosecurity system

Part 2: Pre-border biosecurity

Eve Pleydell : HortNZ risk policy advisor

In last month's article, we used a line of slices of Swiss cheese to represent the way that the different layers of New Zealand's biosecurity system work together to provide maximum protection. In this article we will take a closer look at the offshore or pre-border components of the system.

KEY MESSAGES:

- The goal of the pre-border biosecurity measures is to keep biosecurity risks offshore and away from New Zealand.
- Everyone who imports goods that may present a biosecurity risk has to comply with the regulations stipulated in the Import Health Standard for that commodity.
- New data-driven technologies could increase the speed and agility of the regulatory system, but are we willing to accept a higher level of risk that could come with that?

According to the Food and Agriculture Organisation, every year up to 40% of global food crops are lost to pests and diseases. We all know that New Zealand is a unique haven with relatively few pests and diseases compared to other countries and we would all like to keep it that way. The pre-border parts of our national biosecurity system aim to prevent unwanted pests and diseases from arriving in New Zealand.

Keeping plant pests and diseases out in an increasingly interconnected and complex world is not easy. All sorts of imported goods could bring pests into the country, from the obvious ones like plants for planting and seeds for sowing, to fresh fruit and vegetables, cut flowers, horticultural equipment, vehicles, soil, and even empty containers that could be providing safe passage for hitchhiking insects such as brown marmorated stink bugs or red imported fire ants.

The most effective method of protection would be to prevent anything from being imported into the country and to stop anyone from crossing the border, which is obviously undesirable and unrealistic. To enable the necessary movements of goods and people, the Ministry for Primary Industries (MPI) develops Import Health Standards (IHS) that must be followed to safely bring goods and personal effects into the country. If someone wants to import something that could bring an unwanted pest or disease with it, there has to be an IHS that covers that item. If there is no IHS, then it cannot come in.

Developing and maintaining these Import Health Standards is a huge task. Firstly, risk assessors from the Ministry for Primary Industries (MPI) conduct an Import Risk Analysis that aims to identify all the pests and diseases that could be introduced on or in that item, whether they could establish here, and what harm they could cause if they did. Then, MPI's risk managers decide how to manage the risks that have been identified. This could include treating the imported item with insecticides before it leaves its country of origin (which is an example of an offshore treatment) or conducting a diagnostic laboratory test for a particular disease. In addition, imported plants for planting, including budwood, have to spend time in MPI's post-entry quarantine facility before they are released into the country. This allows plant experts to check and test the growing plants for unwanted diseases in a contained environment.

There is a fine balance that needs to be found in this regulatory process. If the import requirements are too extensive, it becomes logistically or economically prohibitive to import something. If they are not restrictive enough, then more pests and diseases will arrive here. To ensure that an IHS is both fit for purpose and practical to apply, MPI includes a consultation process within the IHS development cycle. This is a public consultation process and anyone can make a submission. Horticultural industry groups often make submissions on behalf of their members. It is fair to say that some robust discussions can be had during these consultations as all parties try to find that sweet spot of enabling trade and innovation while protecting the country.

This is a very real tension. The *Fit for a Better World* strategy for accelerating economic development through the primary sector acknowledges that providing access to new high-value plant varieties and cultivars is essential to enable horticultural sectors to be high growth performers. However, with its biosecurity hat on MPI is unlikely to weaken border controls and put other sectors at greater risk from unwanted pests and diseases. The *Fit for a Better World* strategy also acknowledges that key regulatory systems like biosecurity need to modernise and become more flexible. This is a big challenge, but enabling the biosecurity system to harness the power of cloud-based data mining to monitor changing risks in real-time and provide evidence for intelligence threat forecasting could help MPI to meet that challenge.

> "The *Fit for a Better World* strategy also acknowledges that key regulatory systems like biosecurity need to modernise and become more flexible

For the foreseeable future, static Import Health Standards will continue to be the bedrock of our biosecurity defences. While they are a slow and cumbersome tool, they serve their purpose well and are providing us with some of the best biosecurity protection in the world. We are not yet at the point where technology and innovation has enabled the system to speed up while achieving the same level of protection. Perhaps as a sector we need to think deeply about whether, in order to take better advantage of global advances in plant genetics, we are willing to accept a lower level of protection from unwanted pests and diseases. This a big, complex question to tackle, and involves stakeholders other than industry. For now, you will have to plan several years in advance if you want to bring new sources of plant germplasm or budwood into the country. ●

YOUR INDUSTRY

ACROSS THE SECTOR — ACROSS THE COUNTRY

FEATURE ARTICLE

New packhouse makes a statement

COVER STORY

Grandson of founding family creates own cherry orchard and packhouse

One of the youngest fruit growing grandsons from the original Paulin family in Central Otago, has created his own cherry orchard, along with a state-of-the-art packhouse. AIMEE WILSON reports.

3 Kings Cherries managing director, Tim Paulin, has spent the past three years clearing land on the foothills of the Dunstan Mountains north of Clyde for his new 40ha orchard.

His new packhouse can process up to 1000 tonnes and has a temperature-regulated processing room, as well as full staff amenities. Built by Prospec Structures, the packhouse is made of insulated panels imported from Germany, which have a food grade paint finish, and hot dipped galvanised structural steel framing.

3 Kings Cherries was named by Tim's uncle Peter, and the name relates to a trio of rocky schist outcrops that sit directly to the east of the orchard overlooking Earnscleugh.

The Paulin family celebrated a century of harvesting summerfruit late last year. Tim is a grandson of Robert Noel Paulin. His brother Dennis is co-owner of Dennys Orchard, and older cousins (Peter's sons) Kevin and Raymond, with their wives, own and operate the Clyde Orchards.

There are three sisters in the mix as well, and Tim's eldest sister, Kathy Forrest, bought the family orchard from their father Des.

Longevity seems to run in the family. Des is 96 and still lives in Alexandra, as does his brother Frank; and another brother Brian, is in Wellington.

Tim always wanted to own his own orchard despite his father doing his best to dissuade him, saying the long hours and time away from the family took its toll.

"But it's all I know and have known since I was fifteen."

Starting his tertiary education at Lincoln University, Tim studied a Diploma in Horticulture and Management and

came back home to Alexandra to work on Clyde Orchards, belonging to his cousin, managing the Bannockburn operation for 18 years.

Looking for a new experience, Tim headed to Canada and worked on apple and cherry orchards, as well as horse ranches in Washington State. Coming back home, he crossed paths with nurse Tisha McCaw at an emergency call-out where Tim was part of the fire brigade. They got married, and the couple now have four children.

Tim is also the operations manager for Fortune Fruit, but a few years ago he started looking to find a shareholding in the industry and gain more control over his orcharding life.

"If I was going to work this hard, I wanted to have some ownership," he says.

A fellow industry member that Tim dealt with regularly was a keen investor and said to him, "you find the land, I will find the money."

Tim and Tisha had often gone running together in the foothills of the Dunstan Mountains. They had noticed patches of warm air, and decided the lie of the land could be suitable for fruit production.


Tisha McCaw and Tim Paulin

But before any orchard could be planted, gullies had to be filled in, thyme, broom and gorse removed, the entire property rabbit fenced and irrigation installed, using the Dairy Creek Irrigation Scheme.

3 Kings Cherries is made up of several New Zealand shareholders – Chris Tremain and Geoff Norgate being the general partners – who are family driven and who the Paulins have learnt so much from.

They grow the rare Lani variety of cherry, which only three or four other Central Otago orchardists have the rights to.

> **"Before any orchard could be planted, gullies had to be filled in, thyme, broom and gorse removed, the entire property rabbit fenced and irrigation installed**

There is also Lapin, Sweetheart, Regina, Staccato and Kootenay, and because the industry doesn't have enough packhouses for every grower, they processed other orchards' cherries last summer as well, employing up to 26 people in the peak of the season.

They expect to employ more workers in coming seasons, working with GoHort and other organisations to help recruit staff.

There hasn't been a new cherry packhouse in the Clyde Valley for at least 20 years, and more technology will soon be added.

> **"One door closed and another opened, so we took the chance**

Because 3 Kings Cherries is a brand new orchard with a brand new crop, Tim says they had no extra workers to call on, and at one stage successfully trialed using younger pickers, who worked just half-days at a time to get used to the level of physical labour.

"It's about building a future of workers," Tisha says.

When asked how she finds orcharding life with four children and a husband away for hours and days at a time, Tisha said she's adapted well.

"We're lucky and we love the environment, so I'm not bothered to be here all of the summer," she says, referring to many missed Christmas holidays while the season was in full swing.

"It is tough and not for the fainthearted, but my husband loves what he does, and we can only take positives out of it."

Tim has also had to endure frost fighting at 3am, while Tisha worked nightshift at the local Dunstan Hospital, so there has been sacrifices on both sides.

She now works one day a week while supporting her husband in the new business, which fits family and working life together much better.

So how did Tim know that his new cherry orchard venture, on once wild untamed land, could be possible?

"It was a dream but we didn't think it could happen – but we didn't think it wouldn't happen either. I never cancelled it out. One door closed and another opened, so we took the chance."

With Tim's extensive background in orchard management, and the time and effort put into being a fruit grower, he is extremely passionate about cherries and believes that is the X-factor needed to produce great fruit.

"I have been so lucky to go from dirt and grass. I was the first to put cherries up here, and now others are doing it."

Tim said, at the end of the day, only ten per cent of what you do changes what happens out on the orchard, "because your site and mother nature dictates everything."

Do your staff need vehicle skills?

Keeping your staff safe while they are at work is an important part of being a good employer.

There are five vehicle micro-credentials aimed at helping your staff gain the knowledge to operate specific vehicles while working in any role in the horticulture sector.

Micro-credentials are bite-sized pieces of learning, and your staff can enrol at a time that suits. Right now, these micro-credentials are covered under the Government's Free Trades Training up until December 2022! *

The micro-credentials are:

Operate a Tractor

Operate a LUV

Operate a Motorcycle

Operate a Quad Bike

Operate a light 4WD vehicle (on-road and off-road options)

*If the programme duration goes longer, or you have staff enrolled in multiple programmes at once, some fees will apply.

Contact your local Training Adviser on **0800 20 80 20** or email **info@primaryito.ac.nz** to learn more.

Farmstrong's annual 'growers versus farmers' cricket match in Te Puke raises awareness about rural mental health

"When you're in a situation, sometimes it's very hard to recognise what's happening"

Doing things differently: Lessons from life on an orchard

Leighton Oats is a veteran of the kiwifruit industry.

Now he runs his own four-and-a-half-hectare kiwifruit and avocado orchard near Tauranga in the Bay of Plenty. After spending 20-plus years in a results-driven industry, he says there is plenty he has learnt about managing pressure.

Leighton went through the lows of the Psa crisis in 2010, and then enjoyed the boom that followed, climbing the corporate ladder into leadership and management roles. He also had a young family at the time, so life was busy on all fronts.

Leighton says he reached a point where he felt burnt out.

"I just noticed I wasn't thinking as clearly as I normally do. I was also getting frustrated with people. They would come and ask me questions and I'd be grumpy. I soon realised it wasn't them, it was me. I simply couldn't come up with the answers that should've been there anymore."

Leighton says the industry itself had changed.

"When I first started out, there were gaps in the year where you could have a bit of a breather. You'd do your pruning or thinning and then there'd be a gap. But as the industry moved from casual employment to creating permanent jobs, those gaps disappeared. There was less downtime."

As the pressure mounted, so did his stress levels.

"When you work in a large industry, you don't always have control over decisions, but you still have to implement them," Leighton says. "For example, there might be another project that needs to be done, but there aren't staff to do that. That sort of situation can be stressful."

Leighton remembers it as a tough time.

"I had to prioritise my health. I discovered adrenal fatigue was a big part of it. The adrenal gland affects how you perceive and handle stress. Mine were only working at about 45 percent of where they should've been."

He made a raft of changes to his lifestyle – everything from how he worked to what he ate, to how he spent his spare time.

"I was told I could do anything outside of work as long I didn't have to run it. If I played sport, I had to just play for the fun of it."

He heeded that advice. His Tuesday night twilight cricket team became an important part of his life.

"It's just a really great outlet where you can think about something else other than work and have a good laugh with your mates. That's my downtime. The rest of the time I'm either working or with my family."

He also decided to step back from the corporate world and develop his own orchard block. "My goal was to do as much as I could myself, so I could control my workload and pressure," Leighton says. "So, I've done all the post work and vine work here. I love the kiwifruit industry and now I've got back to doing what I love. The orchard I'm developing is an organic orchard so it's not just a job to me. I'm exploring whether we can we do things as an industry that is less invasive in terms of chemical use. I like the fact I'm free to try anything here."

He admits managing his workload is a work in progress. He still feels frustrated if he's not ticking off his to-do list. However, these days, he's more mindful of the big picture – why he's working in the first place.

"It's been pretty full-on for the last year and half, but I'm definitely achieving a better balance," says Leighton. "My block is 40 minutes' drive away from home, but recently I've been leaving at six in the morning and then knocking off at 2 to 3pm so I can spend more time with my family."

> "He's sharing his story now so others won't have to learn the hard way

Leighton says his experience has made him more aware of the impact of stress on others. "Once I left my role, I started noticing how knackered some of the other people managing properties looked. When you're in a situation, sometimes it's very hard to recognise what's happening. But once you take a step back, you can see so clearly that people might not be coping with things."

He's sharing his story now so others won't have to learn the hard way.

"I think attitudes are slowly changing and these sorts of conversations about work are starting to happen. Programmes like Farmstrong help."

Which is why Leighton recently took part in Farmstrong's annual 'growers versus farmers' cricket match in Te Puke to raise awareness about rural mental health. For the record, the growers beat the farmers by 40 runs.

"Getting involved in community activities like this is so good for you. It was a fun day for a good cause."

Looking back on his career, which involved managing 50 staff and up to 200 contract workers at one point, Leighton reflects on what helps manage pressure.

"It is important to step back from stressful situations and not just react to them. Once you give yourself space, you often realise you're not seeing the full picture.

"It's also important to retain a sense of humour – to be able have a laugh with your mates. Otherwise, work is always going to be a drag and you're not going to end up in a good headspace.

"I think as an industry, many of us get so caught up in the doing that we forget about the why. There's always another job on an orchard. For example, I've been putting in irrigation here and I told myself, 'I've got to get this done before I go on holiday.' I kept pushing myself, doing 12-hour days. Then I stopped and thought, 'Hold on, I can just water all these plants and go away for a week. They're not going to die. Then I'll come back and finish the irrigation.'

"That's the key, telling yourself, 'I can do this in a different way … and that's okay.'" ●

Farmstrong is a nationwide, rural wellbeing programme helping people manage the ups and downs of farming and growing. To find out what works for you and lock it in, visit **www.farmstrong.co.nz**

FEATURE ARTICLE

Despite planting his Rockit™ orchard in September 2021, just before Gisborne experienced numerous episodes of catastrophic rain, Sam Tietjen says his investment in drainage paid off. "We were able to get out there straight away, so it was worth it," he says

Rockit™–ing through growing generations

He has never grown Rockit™, or any other variety of apple, but Gisborne grower Sam Tietjen says these miniature fruit represent an exciting new development for his orchard. KRISTINE WALSH reports.

Growing up on a Gisborne orchard, Sam Tietjen learned a lot about grapes and even more about citrus. But for him, planting apples would break new ground.

He has done it anyway. Sam is part of a group of Gisborne growers who are providing satellite orchards for the Hawke's Bay-based Rockit™ Global.

Sam returned from overseas travels four years ago to take over Braemark Orchard, the 50-hectare vineyard and citrus operation his father, John, had operated for over 40 years.

Just 25 years old at the time, he was mindful that John had recently pulled out nearly 10-ha of grapes so there was bare land to work with.

"That's kind of why I came back… there was this land that needed working and Dad had done his time, so it was my turn to do some development and work on new varieties and growing systems," he says. "Not long after my return we heard that Rockit™ was looking at diversifying into Gisborne so we went down to check it out."

It was still early days, so Sam parked the idea but kept in touch with Rockit™ to keep the embers burning.

When his neighbour planted a block of Rockit™ apples in 2020, the flames were reignited.

"It just seemed like the time was right, especially with neighbours right there for the sharing of knowledge, staff and equipment if needed," Sam says. "That gave us the confidence to go ahead."

Sam created more space by pulling out lemons to open up a nearly ten-hectare block on which to establish his apples, planting five hectares last year (11,500 trees) and with another three-and-a-half-hectares (7000 trees) due to go in this late winter or spring.

There were some concerns, such as: would the fruit grow too large in the Gisborne climate? would it not get the chill factor required to colour up properly?

"That's why we took our time doing research at the front end," Sam says. "That gave us the reassurance we could overcome any issues by cropping the trees a bit harder, and we get that density through the 2D trellis system.

"Because of the small size of the Rockit™ fruit, the 2D system works very well with better light interception, easier management and ideally, higher yields. It's also well suited for robotic harvesting so that's something we can think about for the future."

As a qualified engineer, Sam is always interested in problem-solving and finding new ways of doing things, and that came to the fore in establishing his new plantings.

Even before the pandemic put a squeeze on supplies, growers were struggling to source roundwood posts, so Sam looked offshore, to Holland, for a solution.

"For our next plantings we managed to get a new s teel product which is well proven over there, but a bit of a game-changer for us," he says. "They're easy to use – with a clip system for the 12-wire frame – and being around a third of the weight makes for much better handling."

The cost of the infrastructure, along with Rockit™ licence fees, is a big investment for Sam, but he was confident about potential returns and keen to diversify his orchard.

And if he wanted more reassurance, he only had to look next door to his neighbour who was just 12 months ahead in their plantings and had a decent harvest less than two years after their trees went in the ground.

> "It just seemed like the time was right

"A second-year crop is not such a big concern for us, we are more interested in making sure the trees are properly established on the structure," Sam says. "But we are certainly hoping for a good crop in the third year, so seeing our neighbour's results gives us even more confidence for the future."

As to the future, Sam is looking forward to the ease of Rockit™'s single-desk structure and to being part of its famously innovative marketing and product placement strategy.

"Having access to all that research and support from Hawke's Bay has given the opportunity for a really exciting development for us," Sam says. "We're really committed to making the Rockit™ variety work here in Gisborne and to building meaningful sustainability for our operation."

FEATURE ARTICLE

Right from the beginning Rockit™ Management Services was able to operate with solid health food credentials, Plant & Food Research having identified higher levels of potassium, energy and fibre than in traditional apples

Production ramps up at Rockit™ central

The launch of Rockit™ apples in Gisborne went off with a bang and they say they have no plans to stop now. KRISTINE WALSH reports.

Hawke's Bay's Rockit™ Management Services (RMS) waited until spring of last year to plant trees for its snack-sized apples on an investor-owned orchard in Gisborne because they wanted to get the timing just right.

And while they are celebrating their developments north of home base, there was one area in which the timing was a little bit off. In Gisborne, it rained. And it rained. And it kept on raining.

"There were three big events and a total of around 900ml of rain since we planted, so that definitely challenged the establishment of that block," says RMS general manager Chris Hurrey.

"But that volume of rain is definitely something of an abnormality, so we are looking forward to getting back to what would be perceived as normal."

Chris says the abnormal weather reminded RMS of exactly why it decided to expand into Gisborne in the first place.

"In New Zealand we are prone to adverse weather events and environmental factors so we knew it was important to diversify our crop and spread our risk across several sites.

"That's why we have robust systems to cope with an ever-changing climate where these extremes are only going to be more frequent."

Owned by MyFarm investor group Te Arai Orchard Limited Partnership, and operated on their behalf by RMS, the 21-hectare, 53,500-tree Manutuke development was not the first Rockit™ planting in Gisborne. The first planting was four hectares established in 2020 by an independent grower at Bushmere, a few kilometres closer to Gisborne city.

It was joined in 2021 by a further 44-ha of plantings by six more local independent growers – including Wi Pere Trust – that will supply Rockit™ Global's operation, with around 40 more hectares to be planted this year.

And diversity of regions is not the only reason RMS decided to look further afield: slight climatic differences mean the Gisborne harvest will likely start a week to ten days ahead of Hawke's Bay, both giving early access to the market and smoothing the packing schedule.

The expansion into Gisborne comes as part of a massive growth period for Rockit™, which had its genesis back in 2010 when the variety produced by Plant & Food Research was licensed by New Zealand apple and pear variety development firm Prevar and trademarked in 2010.

It was first taken on by Hawke's Bay businessman Phil Alison, who bought the plant rights for the PremA96 (Rockit™) variety in 2002 – a hybrid of Gala and Splendour – and developed the brand in association with other investors.

The operational model sees Rockit™ Global holding the worldwide licence for the apples and overseeing the physical business of everything from running orchards and supporting growers, to marketing and sales.

> **The fruit is produced and marketed as a healthy snack product – two-to-five small apples sold in a resealable tube – under a single-desk system, meaning growers just have to produce good fruit and RMS take care of the rest**

The fruit is produced and marketed as a healthy snack product – two-to-five small apples sold in a resealable tube – under a single-desk system, meaning growers just have to produce good fruit and RMS take care of the rest.

Phil Alison sold the company in 2017 and four years later the new owners celebrated the opening of Te Ipu, the company's multimillion-dollar facility in Hastings, incorporating a state of the art 21,000 square metre packhouse, coolstore and global office.

Today, Rockit™ Global has orchards under licence in nine overseas territories and the apples are sold in 30 markets with demand particularly strong across America, Asia, Europe and the Middle East.

After starting with under 60-ha of trees planted in Hawke's Bay in 2015, by 2020 there were nearly 500-ha in New Zealand, with another 150-ha planted in 2021 and much more to come.

That growth in area has come with a big growth in production.

At the end of the 2021 season, Rockit™ Global recorded a 33 percent growth in bin volume, resulting in over 75 million apples being packed and shipped (and this in the midst of a global pandemic).

At the end of the 2021 season, Rockit™ Global recorded a 33 percent growth in bin volume, resulting in over 75 million apples being packed and shipped

They are not stopping there: Rockit™ aims to be handling over 300 million apples annually by 2025.

"We are guided by what the market dictates and certainly don't see a let-up in demand for a very long time," says Chris Hurrey who, with a strong background in orchard management, signed up as operations manager for Rockit™ in 2015, taking on his current role as general manager four years later.

"In reality, Rockit™ is only 0.01 percent of a portion of the market and a niche variety at that, which is a big strength," says Chris. "At that level there can be no risk of market saturation so we're really just getting started."

Perhaps ironically, Rockit™ apples are not available to consumers in New Zealand and Chris says there are a few reasons for that.

The main reason is the insatiable demand overseas and the premium price global consumers are willing to pay.

Those little balls of goodness need to go for a good price … there is a lot of attention required on orchard, from nutrition to thinning and the size of the fruit – each under 90 grams – makes them labour intensive to pick and pack.

But it should all be worth it: in 2021, Rockit™ Global forecast orchard gate returns of around $230,000 per hectare on mature orchards.

> **Rockit™ aims to be handling over 300 million apples annually by 2025**

In terms of packaging, the company is doing some exciting work in that space, working with Callaghan Innovation on developing a new tube that has the look and feel of transparent plastic but is made from biodegradable material, perhaps sourced from the orchards themselves.

Flourishing Rockit™ orchard

"We know that will be well received in the market, but our main priority is to be environmentally-conscious and sustainable throughout our operation," says Chris. "That cuts across everything from good management with shelter belts, fertigation and water use to a scientific approach to making sure we are looking after the soil for the next generation."

Rockit™'s growth has seen it increase its permanent staff in Hawke's Bay and between the company itself and the growers, nearly 600 seasonal workers have found positions.

Sourcing that labour has been tough in a pandemic environment, says Chris, and he expects to face the same challenges in Gisborne.

> **"At the end of the day it depends on the enthusiasm of investors and growers, but the opportunities are so fantastic for Gisborne we have no plans to stop now**

But he sees it as being a case of "build it and they will come."

"There are lots of opportunities for young people coming through and if they can see those in Gisborne, it should give them the confidence to settle there," he says. "For our Manutuke orchard we were lucky enough to bring in as orchard manager Josh Rowe, a young guy from Hawke's Bay who could see the potential and was able to move over to do this work for us.

"Even the assistant manager was in Hawke's Bay, but he was originally from Gisborne and this gave him the chance to take his family home."

Meanwhile, Rockit™ has plans for further expansion of its Hastings facility Te Ipu in 2023. Chris is not discounting the possibility of another packhouse being set up in either Gisborne or Wairoa.

"Just like everywhere else, in Gisborne we face the limitations of labour concerns and finding land with good access to water," he says. "But really, the sky is the limit."

"At the end of the day it depends on the enthusiasm of investors and growers, but the opportunities are so fantastic for Gisborne we have no plans to stop now."

Countdown to New Zealand's largest census of agriculture

Growers across the country are being urged to participate in the Agricultural Production Census to provide an accurate and up-to-date picture of the nation's growing primary industries.

Supplied by Statistics New Zealand

Information packs for the upcoming census will be in the mailboxes of all commercial growers by the beginning of July 2022. Growers can make sure they count by completing the survey and ensuring that all questionnaire sections are filled in.

Statistics New Zealand conducts the census once every five years in partnership with the Ministry for Primary Industries (MPI). This comprehensive survey asks growers about their production, land use and orchard practices for the 2021–22 year ending 30 June 2022.

Grower participation is crucial to ensure statistics accurately reflect the reality of what is happening across the sector, so agricultural and rural communities can best be supported, says Ana Krpo, Stats NZ's manager of Agricultural Production Statistics.

"Every operation is different, so every response is important to paint a clearer picture of horticultural activity throughout New Zealand. The census will provide a snapshot of the industry at national and regional levels, as well as provide insights into changes over time. This critical information will enable fruit and vegetable growers, the industry, businesses and government to make informed decisions. The results will be used in developing programmes, priorities, and policies which help drive productivity and profitability."

Ana Krpo says Stats NZ has made changes to the survey in response to feedback, with the choice of an online option that can be filled out in one sitting, or a paper form. "We appreciate the time invested by busy growers in gathering information on the 2021–22 year's production to complete the Agricultural Production Census by the 19 July 2022 deadline. It is vital that everyone responds so that all of agriculture is represented, and no one is left out. The more fully completed responses we get, the better informed we all are to support the industry into the future."

All commercial growers should expect to receive their information pack in the mail by early July. Support completing the survey is available through a dedicated Stats NZ email address and freephone number included in the information pack.

There is more information at **www.stats.govt.nz/about-the-agricultural-production-survey**

There will be a 50–50 split between council and iwi on the representative group for each of the four entities

No escaping Three Waters

There will be no chance for growers to fly under the radar with the government's proposed Three Waters reform package.

Rose Mannering

While its main thrust is to improve the stormwater, drinking water and wastewater infrastructure (the Three Waters) of cities and towns, rural water supplies will also be scrutinised under new water legislation.

Hastings District Council is one of 2000 submitters who have raised alarm bells regarding what water quality requirements for rural landowners will be. Their submission states that in Hawke's Bay alone there are 6000 private water supplies and it is vitally important that practical solutions are found for this group.

For the towns and cities, decades of under-investment has led to many district councils being unable to meet environmental and public health requirements.

There are clear distinctions: Three Waters will not be involved with regional council work with regard to water consents. They will be taking over the management of council infrastructure for stormwater, drinking water and wastewater, carving New Zealand into four separate zones for this purpose. The zones are Auckland and north thereof; central North Island; East Coast of the North Island and top of the South; and finally the rest of the South Island. Representation on these four entities will be mainly by government appointment and there is concern about loss of regional control.

Growers will be most affected by the regulatory arm of the Three Waters Reform, Taumata Arowai. Taumata Arowai is developing regulations which will ultimately mean growers will need to prove their water is safe to drink. The regulations are being developed in bands, depending on how many people on each property use the water.

Taumata Arowai principal technical advisor, Jim Graham, says anything more than a domestic supply will eventually come under his organisation's rules. Anybody who supplies water to people other than their own family will have a duty of care to prove their water is safe. Even lifestyle blocks that have a secondary dwelling will be required to register as a water supplier.

"The principle of the act is that anyone who supplies water has a duty of care to ensure it is safe; they need to be able to demonstrate that their water is good," Jim says.

Those not registered have until 2025 to register with Taumata Arowai and will then need to comply with the regulations by 2028. Jim says rural water supplies will be classified in bands. Growers in the lower band will be classed as having less than 25 people on their orchards for 60 days per year (to allow for harvesting peaks) and will only be required to submit *E. coli* water testing samples twice a year to Taumata Arowai. If their water is clear, there will not be any need for treatment.

A positive result for *E. coli* at a registered laboratory will automatically be reported to Taumata Arowai, who will in turn contact the water supplier and ask them to take remedial steps.

"But we do not want to be pedantic, we only want to be involved if suppliers are reckless or negligent," says Jim.

If the water fails testing, then solutions like filtration, ultraviolet light disinfection or even chlorination may need to be applied. For spring and bore water users, bore security has already come under scrutiny, with the need for headworks which minimise the risk of contamination from surface water. The water supplies must be fenced to exclude stock.

Many of the standards for maximum contaminants in drinking water administered by Taumata Arowai existed under the Ministry of Health (MOH). Larger horticultural users will already be registered water suppliers with this ministry, but they will now be required to comply with new regulations and operate under Taumata Arowai this year.

Local government Minister, Nanaia Mahuta, leads the reform for the government, which aims to supply safe, reliable and affordable water services for good health and the environment. Fixing town water systems will cost too much for local government to achieve alone. A MOH report published more than a decade ago estimated 34,000 New Zealanders become ill each year from drinking poor-quality water.

In March, a Three Waters working group recommended that local councils take direct and proportionate shareholdings of the four new public water entities the government intends to create. One share would be allocated to each council for every 50,000 people within their territory.

Sub-regional representative groups were also recommended, for smaller rural councils to have a say in the larger regional representative groups already proposed.

Local iwi representatives will also be at the table of each water entity. Nanaia says there will be a 50-50 split between council and iwi on the representative group for each of the four entities, which would choose the board to run the organisation.

The working group was appointed in November to iron out issues raised by disgruntled councils across the country.

Local Government New Zealand Te Kahui Kaunihera ō Aotearoa has agreed to a package with the government which would deliver $2.5 billion for councils to wrap around the reform proposals. The package aims to ensure councils are financially no worse off as a result of transferring their Three Waters assets and to cover off transitional costs.

Hastings Mayor, Sandra Hazlehurst, has voiced opposition to the project, especially as Hawke's Bay has proposed its own regional solution in a study earlier funded by the government.

"[The government] would have us believe that in Hastings alone, we need to spend $60m a year for the next 30 years on enhancing water services – adding up to $1.9b," Sandra says. "I have to ask and I have: On what?

"We have spent just on $80m over the last four years to upgrade all of our drinking water supplies. It is simply not credible that with ten brand new treatment and storage drinking water facilities and a fully compliant wastewater facility that our residents need to spend the amount of money they are talking about."

Sari Masters harvesting satsuma mandarins at Bells Produce

Great mandarin season

A great growing season this year has resulted in an early mandarin crop with high yields and quality fruit.

Wendy Laurenson

Tom Chamberlain, T&G's regional manager in Northland, says, "Mandarins were in stores at the beginning of April which is two weeks earlier than usual. We had generous rainfall in early summer followed by a warmer drier summer, and these conditions produced juicy, sweet, good sized mandarins, with low acidity levels and great flavour."

Northland is one of New Zealand's largest mandarin growing regions. This year T&G will harvest over 80,000 crates of satsuma mandarins from the area with additional production from Auckland and Gisborne regions. "Satsuma mandarins have grown in popularity over the past five years to the extent that they're now the largest volume citrus crop in the country. We have reached a point now where satsuma supply is balanced with demand, which is a great outcome," says Tom.

As with other horticulture sectors, labour has been an issue for the mandarin harvest. Tom explains, "Given current seasonal labour shortages, the challenge for us has been having enough hands to harvest the fruit. As an essential business, we've worked with many Northland employment agencies to provide opportunities to locals, alongside our seasonal workers, providing them with the required training on safe work practices. We were also grateful to have a group of women from the island of Kiribati here for the blueberry season, who decided to stay to help with our mandarin harvest, as our pickers weren't able to travel from another Pacific Island to New Zealand."

Seeka is the contract packer for T&G in Northland and Marty Hansen is the Northland regional manager for Seeka. "We've had a big volume year that's gone at a

New season satsuma mandarins

good pace but we struggled to get labour because the mandarin crop coincided with the kiwifruit harvest this year," Marty says. "We leaned on the Ministry of Social Development, advertised on social media, put physical signs out and offered incentive prizes to get people on board. These included daily and weekly cash prizes, prizes for consistent attendance, incentives for referring a friend, plus some random big ticket prizes like electric scooter and mountain bikes. The combo of initiatives worked and we finished the season well in mid-May."

Bells Produce, based near Kaitaia, grows and packs 24 hectares of mostly satsuma mandarins which are marketed through both T&G and MG Marketing, plus their own retail shop in Kaitaia. Bells was bought by Te Rarawa a few years ago and the mandarin crop is part of their greater gate to plate horticulture operation.

Sari Masters is the newly appointed labour manager for Bells Produce Farm, and although mandarins are new for her, she has come to the position from a previous role managing a 100-hectare avocado orchard further north at Kaimaumau, so she is used to running a team. "We will have employed up to 70 locals here over this year's six to eight-week mandarin harvest, with at least 40 picking each day in four teams of ten. We also have 12 in the packhouse plus two supervisors and we pride ourselves on employing locals."

This has been assisted this mandarin season by Sari's avocado connections. "Far North Packers have a six-week down-time gap in their avocado season which coincides with our mandarin harvest, so we work together to enable them to have consistent work all year. I've worked with a lot of them before, so they understand my management style. We also have a regular team of 18 from Tupu, a Te Rarawa led training and work initiative, and I seek out current staff whānau members if we require extra staff at any given time."

> **"As an essential business, we've worked with many Northland employment agencies to provide opportunities to locals, alongside our seasonal workers**

Sari says the harvest has gone smoothly thanks to a run of fine weather. "The fruit quality is good with very few pest and disease issues except for a small patch of wax scale. We haven't been rained off as yet, so we have consistently picked and packed a truck and trailer load of mandarin crates each day. It is our own unit that leaves here each evening for marketing and distribution."

T&G's Tom Chamberlain says demand for satsuma mandarins is strong. "As well as tasting good, they're seedless and easy peel so are a convenient snack food, plus they have high levels of vitamin C, minerals and antioxidants for health protection. Most of the new season fruit will be sold in New Zealand retail outlets, but some of T&G's crop will also be exported to Japan over the coming months."

Alex Tomkins has discovered there are numerous careers in horticulture that she didn't know existed

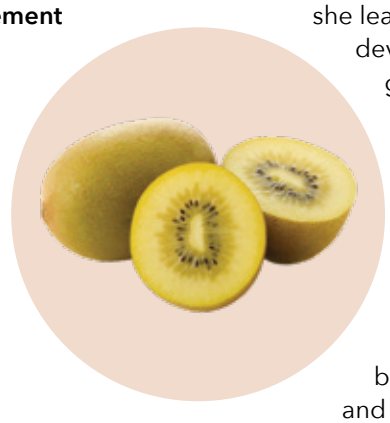
An industry with a wealth of career opportunities

At just 22, Alex Tomkins has landed a role working on projects aimed at improving the business of the country's largest single-site packhouse.

Anne Hardie

Working with the head of business improvement at Trevelyan's Pack and Cool in Te Puke, Alex's new role as business improvement coordinator will first see her working in the packhouse through the avocado season, then shift to the role of assistant packhouse manager over the kiwifruit season. That will give her an understanding of packhouse operations needed for her new role.

Alex's appointment follows a year at Southern Cross Horticulture where she learnt about kiwifruit orchard development and management through its graduate programme.



Forging a career in New Zealand's food production industry has been her focus ever since spending six of her school years in Asia and seeing the high quality of New Zealand horticulture products in the supermarket.

Alex spent her final two years of school back in New Zealand, studying agriculture and horticulture science. Field trips delving

into the kiwifruit industry were lightbulb moments for her as they revealed the scale of the industry and the career opportunities within it.

A Bachelor of Agri Commerce degree at Massey University followed where she was one of a minority who had not grown up in horticulture or agriculture. That didn't hold her back. She was named Rural Student of the Year in the academic section and also selected for the International Horticultural Immersion Programme – including a study tour with other young leaders to Europe and Asia.

When she completed her degree two years ago, she stepped out into the workforce with a goal of working toward supply chain management to get fresh produce to consumers around the world.

"Getting fruit to the consumers is pretty intricate when you are dealing with fresh produce which is perishable," Alex says.

She is still interested in that path but has also discovered numerous careers in horticulture that interest her.

"I knew the kiwifruit industry was big and horticulture in general, but until I began working in it, I didn't know some of those roles even existed."

Alex would like to see the primary industries integrated into school curriculums more than they are now, such as in economics and accounting, so that students can see how they contribute to the New Zealand economy. That may attract more people to a career in the primary industries.

Her enthusiasm for the industry led to her selection for the Food & Fibre Youth Network Council which was created to give young people a voice in shaping the future of the food and fibre sector. It has been an opportunity to engage with the Ministry for Primary Industries and other stakeholders, plus network with a range of young people from different industries.

> **"Alex would like to see the primary industries integrated into school curriculums more than they are now**

Each councillor is passionate about their sector, and though Covid-19 has made face-to-face meeting challenging since the network was established, Alex says the group has still been able to share ideas and raise industry issues.

Riddet Institute research officer Dr Ali Rashidinejad holds a cherry fruit sample ready for analysis in the Palmerston North lab facility

The New Zealand cherry industry is globally recognised as producing high-quality products

Research focuses on cherry health benefits

The many health benefits of six popular Otago grown cherry varieties are being investigated by a team of scientists in Palmerston North.

Rose Mannering

Dr Ali Rashidinejad from the Riddet Institute is leading the eight-month research project exploring the nutritional and bioactive profiles and associated health benefits of each of the cherry varieties.

The project is a collaboration between Cherri Health and Manufacturing (CH&M) – a wholly owned subsidiary of Cherri Global – and the Riddet Institute.

The new research builds on earlier work suggesting that other fruits grown in New Zealand tend to have enhanced bioactive benefits over and above those grown overseas due to high levels of ultraviolet sunlight across the country. Ali says the results will be compared to similar overseas research.

High-Value Nutrition (HVN) Ko Ngā Kai Whai Painga National Science Challenge has awarded a development grant of $55,000 to CH&M and the Riddet Institute for the project. A further cash contribution has also been provided by CH&M to extend the research opportunity.

Ali says due to their specific bioactive compounds (e.g., antioxidants), cherries could play a significant role in reducing inflammation, improving exercise induced muscle soreness, regulating blood pressure, lessening arthritic symptoms and improving sleep.

"Cherries are a great source of vital nutrients and antioxidants required for maintaining good health."

With the expertise of Michelle Cubitt from Smart Regulatory Solutions, the team will also assess the commercial opportunities and potential health claims for functional food products from these popular cherry varieties.

> **Cherries could play a significant role in reducing inflammation, improving exercise induced muscle soreness, regulating blood pressure, lessening arthritic symptoms and improving sleep**

"We are excited by this excellent opportunity to collaborate with CH&M and HVN to work on this special fruit from Aotearoa New Zealand," Ali says. "We think this research can lead to a new phase to extract, identify, isolate and protect antioxidants from this stonefruit for the production of various functional food products."

Cherri Global chief executive, Phil Alison, says the research will not only have a positive impact on CH&M, but also the wider summerfruit category and Aotearoa as a whole.

"We are excited by the results that this project is set to deliver and the prospects that will come out of validating cherry bioactives including identification of high-value food opportunities from second-grade cherries and/or cherry waste," he says.

Phil says the production of new plantings by CH&M (and other Otago cherry growers) will see a huge surge over the next five years. This means there will also be a significant increase in the volume of subsequent waste. Turning this waste into a health enhancing product will help the *taiao*, create new jobs and offer extra *hauora* benefits to consumers.

He ultimately plans to turn waste cherries into an added-value, shelf-stable product which has excellent health boosting properties.

"This is a priority for us because we recognise that with the significant plantings and growth to come in the cherry industry, there will be a large amount of waste cherries," says Phil. "Similarly, we can't rely on the domestic market for second grade cherry sales."

High-Value Nutrition Challenge director Joanne Todd says the New Zealand cherry industry is globally recognised as producing high-quality products.

"Increasing the knowledge of how New Zealand-grown varieties may have particular health-promoting attributes will increase the value of this sector further," she says.

Celebrating Market Access Solutionz's significant contributions to horticulture

by Elaine Fisher

As Market Access Solutionz celebrates two decades of service to New Zealand horticulture, many of its significant achievements have been acknowledged by industry leaders.

Established to solve market access challenges for New Zealand's primary sector and help it thrive and grow, MAS has met and continues to exceed the goals it set 20 years ago when it was founded by Stephen Ogden and Nikki Johnson.

Today Stephen is managing director of MAS and Nikki, who left the company in 2016, is Strategic Projects Manager - Northern Hemisphere Supply at Zespri International.

In keeping with its founding principles, the Wellington-based company's team of six continues to provide independent technical services in biosecurity, food safety, crop protection, export market requirements, plant health research management and industry management.

Peter Silcock, former CEO of HortNZ remembers when Stephen and Nikki left their roles with what was then the Ministry of Agriculture and Forestry (MAF) to set up MAS.

"It took a leap of faith and determination to form MAS, but Nikki and Stephen could see the need for the industry, and particularly smaller product groups, to have access to independent advice.

"The formation of MAS was a big step forward in terms of market access and biosecurity technical capability and MAS has played a significant role in increasing horticultural exports from New Zealand."

James Kuperus, CEO of Onion NZ says MAS assisted New Zealand onion producers to maintain trade with the European Union when its pest and disease requirements changed two years ago.

"We were looking at quite significant trade losses. However, MAS was able to find a practical and pragmatic solution for inspection which enabled us to maintain our trade."

The expertise and breadth of knowledge MAS has built across many industry sectors in two decades is invaluable, James says. "MAS has been a steady hand for our sector. It has evolved and adapted to ensure it keeps pace with, or even ahead of market trends.

"Stephen has incredible experience in the sector and with the Ministry for Primary Industries. The work he has done in the last 20 years for the horticultural sector is exceptional. This anniversary is a great time to acknowledge the work of Stephen and his team."

MARKET ACCESS solutionz | CELEBRATING 20 years HELPING GROWERS ACCESS THE WORLD

Marie Dawkins, former CEO of Summerfruit NZ says MAS played a significant role in helping New Zealand cherry growers gain access to Japan and Korea.

"Summerfruit, as a small organisation with a limited budget, was not in a position to have a person in house to work on market access research. When MAS was formed Summerfruit was one of its first clients.

"One big success was getting cherries into Japan without fumigation. Stephen pretty much designed the assurance programme and worked closely with growers and packhouses to ensure it was managed correctly."

MAS also helped gain access to Korea for New Zealand cherries and worked successfully on regaining access for apricots to the EU.

"Stephen led the hard-won battle to maintain a pre-clearance programme for Summerfruit to be exported to Western Australia. He worked with growers and packhouses to keep the programme viable and workable. Both would have been a lot more difficult without the work of the MAS team.

"MAS drove research to get agri-chemicals registered for minor crops or to retain those which might otherwise be removed. For a relatively small sector, Summerfruit has punched above its weight and has some considerable successes. Stephen has been a part of making that happen."

Wayne Hall, Citrus NZ Chairman says MAS has become a 'one stop shop' for the industry. First Nikki, then Rebecca Fisher and now Peter Ensor have taken the role of Citrus NZ executive manager, offering a wide range of management and consulting services to the industry.

That work includes the introduction, eight years ago, of the successful early season testing programme for Navel oranges. "MAS and Citrus NZ work alongside growers and supermarkets to ensure consumers enjoy great tasting fruit."

MAS has helped Citrus NZ develop a strong relationship with supermarkets. "We now meet regularly with representatives of both Woolworths (NZ) and Foodstuffs for positive discussions about the industry and the growing season and we encourage retailers to come to our conferences to talk about their business."

Organising Citrus NZ conferences is another role for MAS which also carries out research work. This is headed by Sally Anderson, MAS Scientific Services Manager. "Overall, the MAS team provides us with a comprehensive service."

Helen Gear, Executive Officer Plant Market Access Council (PMAC) says MAS, with its 20 years of experience, is fast becoming horticulture's institutional knowledge keeper in Wellington.

"MAS has areas of experience not found in other sectors. It is particularly good at providing services to smaller sectors which don't have the ability to employ someone full time, ensuring they keep up with the rapidly changing world and increasingly complex market access requirements."

MAS has represented Summerfruit NZ on the PMAC board and currently represents Citrus NZ. "MAS is particularly valuable on the board and working groups because it has views across more than one sector, bringing valuable knowledge and perspective."

Helen says MAS makes another less formal, but still valuable contribution to the industry through the social events it hosts twice a year.

"These are opportunities for representatives of government departments and industry leaders to get together socially, fostering important relationships."

Stephen Ogden, MAS Managing Director says horticulture's industry organisations provide incredible support for growers, and it is a privilege for the MAS team to work with them to deliver the services and support that help create a robust primary sector.

"We are proud of our achievements to date and will continue to evolve to meet the new challenges of the next 20 years."

Standing L-R – Lisa Wong, Stephen Ogden, Peter Ensor, Sally Anderson Seated L-R – Stephen Salter, Chrissy Williams

Nikki Johnson, Hon Jim Sutton (Minister of Agriculture 10 Dec 1999 to 19 Oct 2005), Stephen Ogden at the MAS 2002 launch function

John Taylor will be sadly missed

Dawson cherry pioneer remembered

John Taylor will always be remembered for the Dawson cherry. The fourth generation Central Otago orchardist also had many other strings to his bow.

Aimee Wilson

With his death in February this year, his family legacy passes on to his son Trevor and daughter Gillian, the fifth generation of the family who are now running Taylor's Orchard.

For 80 years at the forefront of the New Zealand cherry industry, R Dawson and Co started with John's maternal great-grandmother, Ellen Dawson, and her husband Richard Dawson, who settled on the property during the 1860s gold mining era, with the view to striking it lucky.

Fate played a different hand. The fruit industry owes much to the pioneering spirit of 'Great Granny Dawson.' She was gifted with green fingers, and had no trouble growing vegetables, berries, and flowers, as well as providing milk from a small herd of cows.

She bartered her surplus produce with other miners and the local Alexandra storekeeper, Billy Theyers. When Billy found himself out of pocket for the freight on a bundle of orchard trees destined for Galloway Station, he offered these to Ellen, provided she reimbursed him for the freight.

She struck a deal with her neighbour and they shared the trees. Flushed with the success of this new venture, Ellen encouraged her husband to plant more trees, which led him to become a fruit grower and give up mining in the 1870s. Today one walnut tree from this original bundle survives.

While John's great grandparents were responsible for planting an orchard, it was their son-in-law, Alex Taylor, who played an important role in introducing the Dawson cherry variety into their orchard in the 1890s.

The family has retained its original name to honour its proud history. The orchard has only a few Dawson cherry trees nowadays, "for sentimental reasons," Gillian explains, and for those who still love to eat Dawson cherries at Christmas.

Once the third biggest cherry orchard in New Zealand, the 18ha operation is now just a small player in the industry, focusing on a range of stonefruit instead, with only 30 percent of the orchard planted in various cherry varieties.

John's father Geoff Taylor took over running the family orchard in 1946 and was very active promoting the summerfruit industry. He recognised the benefits of scientific research and campaigned successfully for the establishment of a research orchard in the district, which was established as the Fruit Research Station of the Department of Scientific and Industrial Research (DSIR) and is known today as the HortResearch Clyde Research Centre.

This probably explains why Torchy Atkinson, the DSIR horticultural scientist and scientific administrator, inspired John to trial different rootstocks, to try growing tart cherries and trial soil fumigation as a solution for cherry replant problems.

Belle and Geoff Taylor had eight children. John was the eldest of their five sons and initially attended Scots College in Wellington, as he required medical treatment for an eye problem.

He later completed his secondary education at Waitaki Boys' High School in Oamaru with his brothers Geoff and Peter.

Upon completion of his schooling in 1952, he returned to the orchard and his younger brother Peter joined them a couple of years later. Their father thought the boys should gain some industry experience outside the orchard and so John went to work at the Turners and Growers produce markets in Auckland in the 1950s.

Sir Harvey Turner and his father Geoff were working together to establish an air freight service out of Central Otago to get the fruit into Auckland markets. Peter's off orchard experience enabled him to head to Australia where he worked on an orchard in Shepparton, in Northern Victoria. This experience gave him exposure to the markets and an opportunity to see how fruit and produce was sold – a good grounding for his fruit growing future.

John and Peter operated the orchard in partnership with their father until the 1980s. Like Geoff, they were both fully immersed in fruit growing industry affairs.

While Peter opted for a political role, including President of the New Zealand Fruitgrowers' Association and chair of the Horticulture Export Authority, John sought roles close to home.

These included the local Earnscleugh Fruitgrowers Association, the Central Otago Export Grade Standards Committee, and the Dunstan Transport Committee. In 2012 John was made a Life Member of Summerfruit NZ in recognition of his contributions.

In the 1980s the business was restructured, with Peter taking over the Earnscleugh orchard and John assuming control of the original family orchard at Conroys. This provided the opportunity for his son Trevor to join the family business.

Peter subsequently moved to the Bay of Plenty and is now enjoying retirement in Tauranga.

Beyond fruit growing, John extended his hand to many other groups in the community. "If there was a job offering, he'd put his hand up," says his wife Pearl.

He served on the local school committee and was president of the local Jaycees that built the large iconic Alexandra Clock on the Hill, and he was the longest serving member of the Alexandra Rotary Club (48 years).

John was recognised for his service to both these organisations, being made a Jaycee Senator, and awarded a Paul Harris Fellowship with a Sapphire Pin for his Rotary service.

> **"A man with a fierce determination to constantly learn, and with a huge heart, John will be sadly missed**

When he wasn't working or helping others in the industry, John was reading about growing fruit, and his somewhat photographic memory enabled him to retain endless amounts of information. "He had a very active brain. He was thinking all the time," Pearl says.

Central Otago fruit grower Earnscy Weaver says John was a conciliatory person who always attempted to get a consensus.

So he was well suited to being the chair of the Central Otago Export Grade Standards Committee when the industry was establishing grade standards for export fruit.

Earnscy also recalled that John was heavily involved with the Transport Committee and did a lot of work to set up a refrigerated road transport system to ship fruit out of the district.

A mentor for many younger growers, Earnscy says "he was a wise head in the industry, from his experience and knowledge of fruit growing."

A man with a fierce determination to constantly learn, and with a huge heart, John will be sadly missed. John is survived by his wife Pearl, his three children and siblings Geoff, Peter, Sally and Richard.

FEATURE ARTICLE

Jono Tobias with data collection rig attached to tractor

Assisted harvesting next step in labour-saving

Several spin-off businesses associated with Waikato University are busy developing new technology to tackle the issue of labour shortages in the horticulture sector. GEOFF LEWIS reports.

In March, graduates Josh Barnett and Jono Tobias collected data from a rig towed behind a tractor through a field of broccoli as part of the ongoing development of horticultural 'assisted harvesting' devices.

Jono has experience in electrical engineering whereas Josh, managing director of Axis7 Ltd – a research and development company with expertise in robotics and machine design – has a mechanical engineering background. He also designed an autonomous asparagus harvester through Waikato University several years ago that is now in the hands of Robotics Plus Ltd with $5 million in funding to take it further.

Now back in the field, Josh is scoping a study to collect data which would help in the development of a device to reduce the number of workers required to harvest broccoli. The study, funded by a $30,000 grant from the Agricultural and Marketing Research and Development Trust (AGMARDT), will help to address chronic labour shortages. While the project is in its early stages, further funding support looks promising.

Kaimai Fresh grows asparagus, broccoli, cauliflower and cabbages over 225-hectares near Matamata and has partnered with Josh to support the study. Owner, Matt Carnachan, says labour has become a critical problem.

"To find labour we've tried everything, going through Work and Income, finding people in the local area and the RSE (Recognised Seasonal Employer) scheme, nothing really works," he says. "In the past, with asparagus, we needed a lot of labour, but we have now reduced that to a team of eight to ten.

"Asparagus will fall back to being a niche product. Our focus is now on brassicas and a smaller amount of labour. The issue is a matter of survival for all labour-intensive crops – potatoes, carrots, onions, salad greens – everyone is looking to autonomous harvesters."

Matt says Axis7's philosophy is not to make the leap to full automation, but to work on a level of functional automation – a harvester which can be towed behind a tractor and can reduce the number of workers needed, rather than replace them entirely.

"Full automation becomes far more complex than a 'cut and convey' device that can be towed behind a tractor," Matt says. "There is a balancing act between speed, accuracy and cost."

Josh says the goal is to build a machine capable of replacing ten labourers in the Matamata operation.

"The labour issue has got to the point where produce is being left in the field – both in New Zealand and overseas."

The Axis7 data collection rig is equipped with stereo RBG (red-blue-green) cameras and a time-of-flight camera provided by expert three-dimensional (3D) imaging company, Chronoptics. Using machine learning, these sensors can be used to accurately locate and determine the maturity of the produce.

"We are fortunate to have worked on some great early-stage agri-tech projects in the past and see brassica harvesting as a global problem that we can help to solve," Josh says.

Meanwhile an 'E-Bin' – a device designed to take the load off kiwifruit pickers – is another assisted harvesting project underway between Waikato University's engineering faculty and Zespri.

Headed by engineering lecturer Nick Pickering, its aim is to enlarge the potential labour supply by creating technologies which reduce the physically demanding aspects of kiwifruit harvesting.

> "The labour issue has got to the point where produce is being left in the field

Nick draws from 20 years' experience across aircraft avionics and airport IT (information technology) systems transformation. He worked professionally with Zespri while general manager of IT at Datacom and currently lectures at Waikato. There he discovered the capabilities of Waikato's Robotics, Automation and Sensing research group (WaiRAS).

"When I learnt about the work of WaiRAS I approached Zespri with some innovative ideas and then co-developed their on-orchard automation strategy," Nick says. "Assisted harvesting was one of the opportunities identified as a stepping stone to full automation.

"Watching videos and researching the challenge during the October 2021 lockdown, we quickly saw the demanding physical nature of the harvesting job with the majority of workers being under 30. At the same time, we were hearing about unemployment in the regions. So, we thought let's build something that expands the demographics of the picking workforce and try and kill two birds with one stone by creating augmented robotics that create jobs in our regions."

Nick says successful innovation often requires hitting the 'sweet spot' of technical feasibility, user desirability and financially viability.

"Coming from academia, we are good at the technical feasibility perspective but conscious that we don't always know the nuances of a specific domain; so, we decided to take a human-centred co-design approach by working closely with different specialists.

"In this case, working with Garcia Contracting Services, Agriculture Risk Management (ARM) and Zespri (initially in online workshops during the October 2021 lockdown) to continuously evolve the design to find something that meets every stakeholder's needs. Sometimes the hardest innovation is coming up with the simplest product possible."

Nick says the most rewarding aspect of the project has been the capability development.

"Providing research and development value-for-money through a hybrid team of professional researchers and working alongside one of our full-time masters students Graeme Chubb."

The Zespri Assisted Harvest partner project began with testing in the Waikato lab on a fake canopy. Three-dimensional printed kiwifruit were used to evolve and assess mechanisms that work for end users while being gentle on the fruit.

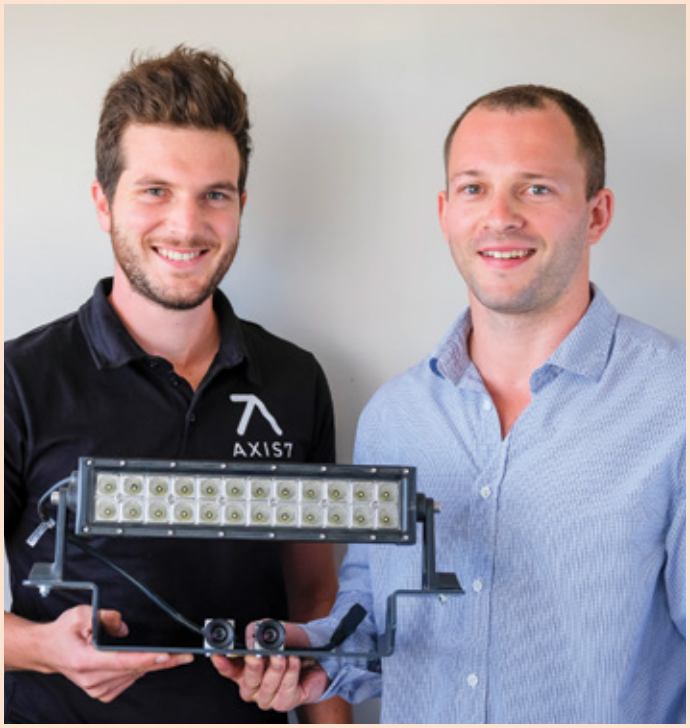
The first prototype of the E-bin harvester is currently going through 12 orchard trials where fruit damage is being evaluated through the storage cycle as well as human factors such as performance, usability, injury risk and fatigue.

"We're working to bring together health, computing and engineering specialists from academia and integrate them with industry to solve real world problems – a capability that is key to keeping NZ Inc. competitive in the agri-tech arena." Nick says. "It's fantastic to see Zespri taking a lead here by funding the co-design projects for the good of the industry."

"We are working on autonomous vehicles on the survey robot project, but have kept the costs down for this through the use of auto-drives."

In the orchard, the battery-powered E-Bin moves in front of the pickers at about 50mm to 100mm per second in auto-mode. Users slide the empty bin on the front and then slide it off when the bin is full.

"The E-Bin means pickers don't have to physically carry bags of kiwifruit, which can weigh around 25kgs, allowing them to concentrate on harvesting," Nick explains. "Varying orchard widths can be accommodated with adjustable side catchers on the bin.



Jono Tobias, project engineer (L) and Josh Barnett, director (R) with data collection camera supplied by Hamilton based Chronoptics

"The driver can go faster in manual mode (tethered control) to move around the orchard or make any required course corrections while picking."

The key has been making costs as low as possible to support a quick scale-up of the solution and resolve labour challenges as soon as possible, he says.

"It's early days but the prototype has been well received by all," Nick says. "We believe the human-assisted harvesting prototype will actually create jobs in the region for a wider demographic of people while supporting the kiwifruit industry's expansion targets.

The agri-tech innovations being designed through WaiRAS are also directed towards ease of use, efficiency and cost savings through the use of modular components. A high proportion of robotics solutions consist of the cost of sensors, batteries, computing and navigation equipment.

"As a result, we aim to build "Modular Agritech Systems for Horticulture (MAS-H)" from a hardware and software perspective. This is to ensure re-use across different domains and throughout the year."

This also reduces the impact of supply chain interruptions through the use of common spare parts, enabling regional support and a regional on farm and on orchard replacement strategy.

"We're looking at it from a perspective of what can we achieve for NZ Inc. with robotics and the available labour pool," Nick says. ●

Collaborating, innovating and supporting growers in New Zealand

Fruitfed Supplies has worked closely with growers, suppliers and industry members to support the continued growth of the horticultural sector.

The Fruitfed Supplies' research and development team conducts trials year-round to assess product performance in local conditions and alongside other products. This knowledge in a product's technical application allows our customer service and in-field representatives to provide growers with the most up to date product choices as part of a tailored spray and control programme.

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Stu Weston's motorbike gives him time to clear his head

'Thunderstruck'

Stu Weston, chief executive officer of post-harvest business Apata, has been part of the kiwifruit industry since 1991.

An episode of burnout years ago still informs how he works today. Farmstrong asked him to pass on his insights about how to manage when you're feeling 'under the pump.'

Q How did you get into the industry?

A I fell into it. I was broke, needed to make the rent and had no warrant for the car, so I picked up a labouring job in a kiwifruit packhouse in South Auckland. I ended up staying for ten years! I'd grown up in urban Auckland, but I absolutely loved the work. Over time, I picked up other roles and eventually moved to the Bay of Plenty where 85 percent of kiwifruit is grown. At the tender age of 33, I was chief executive officer of one of the post-harvest businesses here.

We manage over 300 hectares of orchards and we're developing another 250 hectares, so we've got a lot going on. The main activity is the packing, cool storage and export of kiwifruit.

Q What do you enjoy about the job?

A I love working with people and this industry is very collaborative. Every day you run across such a variety. It's like three industries wrapped up in one – horticulture, manufacturing and warehousing. I love that breadth.

Q What are the main pressures at the moment?

A Right now, it's the volatile environment caused by Covid-19. In the last month, hundreds of staff have gone down with Omicron. It's a guess who's going to be there every day. Trying to make do with the labour you've got is really challenging when you've got 200 clients with 15 million trays of fruit to harvest. These are unprecedented challenges that we are facing as an industry. It's a whole new level of stretch. You're constantly juggling balls all day, every day.

Q That sounds stressful. What sort of toll does that take?

A Well, because I'm no stranger to stress and have been through some dark days, I'm acutely aware of the early signs of stress and I'm careful to manage that. As the leader of a large organisation, I realise the best service I can be to my shareholders, staff and clients is to stay cool, calm and collected and turn up at work feeling rested and clear of mind.

Q What strategies do you use?

A I've learnt not to burn energy on stuff I can't control. I just look after what I *can* control. For the uncontrollable elements, I simply buckle up and enjoy the ride.

Q What about workload?

A It's possible in this industry to work so many hours that your head is just in a fog. There was a time when I was younger that I worked 17 hours day. Now I go home after 12. Rest is vital. There's always something to do in my job. I'll prioritise what needs to get done and then go home and rest.

Q What about busy times like harvest?

A Harvest time *is* crazy, it consumes you. My friends and family realise that during harvest, Stu disappears for three months. I'll stay in contact with close friends, but that's it. I make sure I don't over-commit my time to conserve energy.

Q What about the basics – eating, sleep, exercise?

A I'm big on exercise and careful about what I'm eating. When you're young you can thrash that engine all you like, but when you're older, exercise, rest and diet are important to prevent you descending into that fog.

Q How do you avoid bringing work worries home?

A I give myself a little debrief on the way home before I walk into the house. If I go in wound up like a steel spring, I'm not giving my family what they deserve. So, as I'm driving home, I'm letting go of any work anxieties, tasks that have not been completed or frustration about things not going as planned. And if I get home and I'm still not completely there, then I'll go for a walk in the orchard.

Q How do you make sure you get a decent night's sleep?

A I treat home as a refuge from work. Once I'm home, I'm off duty. I find it helps train your mind to let go of anxieties and frustrations and rest. If you're about to go to bed and you keep checking work emails, sure as eggs something is going to wind you up and you'll be awake at two in the morning.

Q You mentioned some dark days. Tell us about that.

A I was a young guy, 29, working incredibly long hours, with a new wife and baby. I never adjusted my work pattern to accommodate my life. I remember collapsing at work. I thought I was having a stroke. The room was spinning. I was in a bad way, purely because I'd just kept going and going. It was a smaller business and I was chief cook and bottle washer, continually resolving problems. I got trundled off to the doctor. When I told her the hours I was doing, she said that amount of work was so unhealthy, there was nothing she could prescribe to help!

Q So what happened?

A She sent me to a cognitive therapist. He kept asking me why I was working the way I was. It was like peeling an onion. We finally got to the root of it – deep down I had a need to prove to everyone just how hard-working I was. He asked me if that sounded logical. I laughed and replied, 'that's the stupidest thing I've ever heard!'

But that's what was going on in my head. I was so concerned about the welfare of the business, and what people thought of me, that I was killing myself! That was a 'wow' moment. Since then, I've come to see that there are a surprising number of people like that.

Q How did you recover?

A I had to learn how to enjoy things outside of work again. I ended up going to the public pool to swim. It felt so foreign and bizarre at first taking time out of my business to do that. I had a very low expectation of enjoyment beforehand, but when I did it, it actually felt nice! It took those baby steps to introduce something else in my life and find some balance.

Now I consciously make time for activities outside work. I recently bought a motorbike. One of my favourite things is to go out for a ride where I'm in my own little world. It feels marvellous. When I'm on my mower in my orchard block or riding my motorbike no one can reach me. Those moments are precious and really good for you.

Q How do you make sure you don't fall back into old habits?

A My wife is my sentinel, if you like. She recognises if I'm falling back into my old ways and will call me on it. The other thing is self-awareness – knowing the tell-tale signs that you're 'under the pump'. For me, it's when I start forgetting things. I'll go out to the car and I've forgotten the keys or my phone. Once you know your markers, you can do something about it.

Q Did you ever consider another career?

A I could probably have found an easier job, but, if I'm really honest, I'm an adrenaline junkie. The theme song to my life could be ACDC's *Thunderstruck*. I really like the high-octane nature of our industry. I'm never happier than when I'm standing in the middle of it all, cranking it out.

Q So, what's your message to people experiencing similar challenges?

A The fundamental truth is that you can only control what you can control. There'll be times when things are going wrong, when you've just got to ask yourself, what's the worst that can really happen? If it's beyond your control, put it back in its box and don't let it continually play on your mind. If you don't do that, you're just adding more straws to the camel's back.

Q What if you've got a big day ahead of you?

A Look at the big picture. Decide what's important and what's nice to have, and only do what's important. That'll help you sift through everything that's coming at you. All these things may be urgent, but are they important? Take a step back and prioritise.

Q What about stress related to production targets and results?

A If things outside your control conspire against what you were hoping to deliver, then that's okay. Don't beat yourself up. We've all got operating objectives, but these aren't ordinary times and not everything will be perfect. But these times will pass too. We'll get through together. We always do.

Q Any other thoughts?

A When you're passionate about something, you just want to be the best at it. I know many kiwifruit growers feel like that and it's a great thing … until it's unhealthy.

I'm a highly competitive person too, a type A personality, but I literally nearly worked myself to death. I learnt the hard way that you have to look after yourself, otherwise you're no use to anyone. That's why I'm happy to share my story. If I can help one other person avoid that abyss, then I'll put myself out there and share it. ●

Farmstrong is a nationwide, rural wellbeing programme that helps farmers and growers live well to farm well. To find out what else could work for you and 'lock it in', visit **www.farmstrong.co.nz**

Tamarillo update

By Helena O'Neill

Tamarillo growers Robyn Wickenden and Aaron Davies have successfully managed to cover their one-hectare orchard with psyllid netting in an effort to protect their trees from infestation.

After an aborted effort in January due to windy conditions, the couple finally managed to get the huge sheet lifted up over the orchard and tensioned off. It is hoped the netting will prevent the crop-attacking pest, Tomato Potato Psyllid (TPP) and the Liberibacter it carries, from infecting their tamarillo trees.

The Maungatapere orchard had 2200 trees of the Laird's Large variety but the couple had to remove about 200 trees in order to install supporting poles for the protective sheet.

The netting manufacturer was not able to stitch the netting together, so Robyn and Aaron tested various means of attaching netting to itself to make that one sheet. They found the answer in a modified silicone glue, spending the better part of a week gluing sections of netting together.

Robyn says after two years of heavy fruit losses, this is the only possible solution to keep the tamarillo orchard viable.

> After two years of heavy fruit losses, this is the only possible solution to keep the tamarillo orchard viable

Avocado growers weather a tough season, red kiwifruit makes its debut

Labour continues to be the major issue facing growers in the Bay of Plenty, a region focussed on kiwifruit and the smaller avocado crop.

Bonnie Flaws

Both crops have had their ups and downs this season but after two years of Covid-19 and its impacts, kiwifruit growers want more certainty for the future, New Zealand Kiwifruit Growers Inc. (NZKGI) chief executive Colin Bond says.

While a full quota of 16,000 Recognised Seasonal Employer (RSE) scheme workers were allowed to enter New Zealand for horticultural work this year, there were only a couple of thousand backpackers remaining in New Zealand. For kiwifruit, backpackers continue to be a major part of the workforce.

"The RSE cap has been increasing each year by about 1000 workers a year," says Colin. "We'd like to see a jump in that to allow the industry to get back on its feet because we've still got uncertainty about how many backpackers will come back to the country and how long it will take."

Te Puke Fruit Growers Association president Simon Cook says it is agreed that this year's harvest was probably the toughest in terms of labour issues, but the industry has turned a corner and is starting to slowly get better.

"It was the hardest due to lack of backpackers, we normally have a large contingent," Simon says. "The government wasn't extending visas, and leaving them with a lot of uncertainty. It was poorly managed. We hope they start drifting in again."

Apata general manager Stu Weston says what ended up saving the kiwifruit harvest, was the fact that Zespri implemented a strategy of harvesting in a more spread-out way to ensure workers could be shared around.

"We went into this season with knees trembling and our teeth chattering because we had no idea how we were going to harvest this crop," Stu says. "But Zespri put in place a number of commercial drivers to pull a lot of the gold ahead of time, so some fruit was picked earlier and that was really helpful."

But it was RSE workers to the rescue, without whom the industry would be facing a "monumental disaster" with crops going unharvested, he says.

Shipping woes continued for kiwifruit, with the Shanghai lockdown "causing havoc" in getting the fruit to market.

A lot of fruit was pushed to Jingjiang, a more southern port. Backlogs in Shanghai due to the swabbing that was taking place on all offloaded cargo was creating major disruption.

The whole process of getting fruit off the boat is currently taking about five days.

With the harvest about to wind up in June, growers are looking forward to a couple of weeks' break before pruning begins.

Considering the labour that arrived for the harvest, the assessment is that there should be enough RSE workers to go around for the labour intensive and highly skilled job of pruning.

Stu says the situation is still tenuous but growers are hopeful.

"We'll be going hard out on that right through until early September. We've had a dream run with weather for the harvest and had we not, we'd be in trouble. Winter weather can be hard, so we are still biting our nails."

Avocado growers hit by Australian glut

Despite New Zealand avocado growers experiencing a great harvest in terms of volume and quality, Australian growers had a great season too, flooding the Australian market and drying up sales for Kiwi exports.

Since Australia is the major market for our fruit, that meant our New Zealand growers' profits were down from $40 a tray to single digits, Stu says.

Shipping was another problem, making it difficult to deliver the fruit to Asian markets, where they compete with the cheaper South American crop.

"We start our avocado harvest in August and go right the way through to February and March – the big game for avocados is the export game and that was really depressed. Growers are remaining stoic and philosophical and looking forward to times ahead," Stu says.

> "...the situation is still tenuous but growers are hopeful

Bay of Plenty growers are still harvesting a small amount of avocado for the New Zealand market. Heading into winter they are feeding their trees and protecting against *Phytophthora*, a disease that can infect the tree's roots.

Luckily for avocado growers, labour was less of an issue as they can harvest in a spread out way over the year, says Avocados New Zealand chief executive, Jen Scoular.

"There is definitely a shortage of labour, but it's not nearly as significant as for kiwifruit or apples," she says.

What is tough is getting the fruit to market, however.

"No vessels arrive or leave on time, routes change. Avocados don't last, they need to be consumed within 40 days of harvest and delays in the supply chain have a big impact. Costs have also gone up a lot."

Red kiwifruit makes its commercial debut

While they have been commercially trialled for several years now, 2022 is the first year that commercial volumes of red kiwifruit have become available, says Colin Bond.

That amount is still tiny, however. There were 110,000 trays of red kiwifruit, compared to 187 million trays for the total crop. Most of the red variety will make its way to export markets, but some will be made available to Kiwi consumers.

"Red is likely to go to Asian countries closer to New Zealand as they don't last as long. We tell growers who are interested to go and talk to others have who been involved in the trials about how to grow it before buying licenses. It's a more difficult crop to grow than gold, but most of the licenses were sold and growers seem willing to take up the challenge," Colin says.

Its benefit lies in the fact that it is harvested earlier than other varieties, along with its berry-like taste.

Apata's Stu Weston grows the fruit himself and says he has a number of clients dabbling.

"The driver is workload spread because it harvests earlier. They are beautiful and have a very attractive taste."

Juice prices were more attractive than previous years, with growers receiving close to 15 cents a kilogram for the fruit

Pick Hawke's Bay Samoan RSE workers, Taumanu Lino (left) and Kupa Togialelei Gasologa, complete a juice pick of Pink Lady apples

Wild weather wreaks havoc

Deluges on the East Coast and labour shortages at the start of harvest have led to an estimated 12 percent drop in pipfruit production this season.

Rose Mannering

John Bostock, from Bostock NZ, says the East Coast experienced terrible rain in February and March, the sun didn't shine and 250 of his staff came down with Covid-19 all at once.

"It has also been incredibly difficult getting shipping vessels," John says.

Bostock joined other exporters like T&G to utilise five or six charter vessels when traditional shipping channels were not available.

Yields were down for the organic fruit producer and pack-outs have been difficult.

"Of all the seasons this has been the most challenging one," John says.

"Despite being incredibly difficult, Bostock NZ are positive about the future and we will get through another day."

Hastings Crystall Road fruitgrower, Leon Stallard, says it has been a season to remember – and not for the right reasons. The weather followed a typical La Niña pattern, a re-run of 2017. Fruit was prone to bruising and punctures and there was some splitting in Royal Gala and Dazzle varieties.

Leon had five times the normal rainfall in March, leading to varieties that wouldn't normally split opening up. At flowering time, wet weather affected pollination and some growers chemically over-thinned. Grey overcast weather has led to russet, which in turn has led to lower pack-outs.

Gisborne copped the worst of the weather, with more than 530mm of rain during the harvest, while Hawke's Bay had 321mm. Difficult picking conditions for early varieties like Royal Gala and Rockit™ combined with the slow arrival of migrant Recognised Seasonal Employers (RSE) scheme workers from Tonga (following the volcanic eruption)

and Samoa (due to Covid-19 lockdowns) added further challenges, as well as hitting the peak of the Omicron wave moving through New Zealand. Not all, Royal Gala in particular, was harvested due to the shortfall in labour.

The weather improved and the RSEs arrived, making harvest of the later varieties less difficult.

AgFirst Consultant, Ross Wilson, says the crop estimate for what the 2022 crop could have been in January was 23.2 million cartons (TCE) – that's with a full labour force and no major climatic hiccups. However, his survey of packers has revealed the drastic drop to 20.3 million cartons, with Hawke's Bay production down 15 percent and Gisborne down 20 percent.

Labour shortages were sorely felt and the absence of the backpacker labour force continues to be a problem, particularly for smaller growers.

"Limited labour meant growers were unable to make the best of the crop, like rolling out their Extenday (reflective cloth) to improve colour," says Ross. Colour development was more challenging than normal.

Ross believes the industry can still be proud. Only good fruit went into export cartons.

"The New Zealand industry is one of the best for screening internal and external fruit condition at packing," he says.

Growers also face hikes in shipping and post-harvest costs.

European markets are not strong, which is likely to impact European-centric apples varieties like Braeburn, Jazz and Pink Lady.

"A lot of third picks were left on the tree," Ross says.

The Russia-Ukraine conflict is a double whammy, causing general disruption to the market and closing the exports of Class 1.5 and Class 2 fruit, lower quality fruit, which would traditionally go to Russia.

Asian markets are strong but Asia-specific varieties, Pacific Queen, Envy and Rockit™ have all been affected by high levels of russet.

Hawke's Bay Fruitgrowers' Association president and Rockit™ grower Brydon Nisbet says the 2022 harvest will go down as the most challenging he has had after 26 years in the business.

"We were standing people down to comply with Covid export requirements right in the middle of our Rockit™ harvest. We lost tractor drivers and quality controllers – it was just me in the middle of the rain," he says.

Brydon says he employed 134 pickers to achieve the job 24 could have done under normal circumstances. Inexperience, staff 'churn' and Covid-19 all added to the massive turnover of pickers through his gates.

Despite increases in production costs and a slow market in China due to continued lockdowns, prospects for Rockit™ prices are good, he says.

NZ Apples & Pears chief executive, Terry Meikle, says the drop in production equates to a reduction in export earnings of $105 million.

"While our crop may be down by around 12 percent on initial estimates, it is a testament to the resilience and capability of our grower community that we are still likely to make the most from such an incredibly challenging harvest," Terry says.

"Growers have not had the surety of labour to do everything they normally would to maximise their crops. Labour shortages were further exacerbated by the impacts of the pandemic affecting key regions at critical moments during the harvest and the backpacker workforce not being available. In this environment, maximising the crop volumes was simply not possible," says Terry.

Ongoing disruptions to the global supply chain network and a global inflationary environment appear set to continue causing challenges for the industry in the coming months.

"While undoubtedly this has been the most challenging of harvests in recent years, the resilience of our grower community to produce quality fruit that gives our overseas and domestic customers a great eating experience is admirable," says Terry.

T&G Global director operations, Craig Betty, says Covid-19 continues to affect global supply chains, with a shortage of containers and shipping capacity, delays in some feeder ports and varying levels of consumer demand due to lockdowns and Northern Hemisphere stock levels.

"Without a doubt, our industry is under considerable pressure this season," Craig says. "With the apples now off the trees, we're absolutely focused on packing and shipping our premium apples to customers and consumers around the globe." ●

Modern slavery claims disputed by RSE employers

Elaine Fisher

Claims the Pacific Recognised Seasonal Employer (RSE) scheme is an example of modern slavery and the Government must hold an enquiry are disputed by Tauranga Orchardist, Graham Dyer.

Graham has 40 years' experience of Vanuatu and more than a decade of experience working with the RSE scheme. He says he and other RSE scheme employers are not afraid of an enquiry but believes there is no need for one.

"Both the New Zealand and Vanuatu governments have very strict codes of compliance for employers involved in the RSE scheme."

The RSE workers he and his wife, Mavis, employed during last year's kiwifruit pruning earned an average of $1011.00 a week, net over three months.

"That was after tax, an accommodation charge of $100 a week and $50 a week for food," Graham says. "The choice of food was theirs alone. We didn't dictate what they ate. Our staff were taken to town [Tauranga] at least twice a week, sometimes three times. This included remittance trips to Western Union to send money home, shopping trips and trips to buy food.

"Now and again, there would be social trips to visit other Ni-Vans, working for post-harvest companies in the area."

Workers staying on the Dyer orchard are welcome to have visitors, including other Ni-Vans.

"We have string band instruments set up here, which are part of the Ni-Van culture and those who can play are welcome to use them."

Graham says people wanting to understand the Ni-Vanuatu culture should read 'Road no Good' by Bridget Isichei, who is a Tauranga-based pre-school education expert who spent time in Vanuatu, attempting to set up a pre-school system run by local women. Graham says the book is an eye-opener into life on the islands.

It's also a life Graham and Mavis understand.

Graham and Mavis Dyer (far right) with a granddaughter and group of Ni-Vanuatu RSE workers outside the Dyer family home near Tauranga

"Mavis and I began our relationship with Vanuatu in 1980 by visiting the village of Casevaia in South Santo and later, employing workers," Graham says.

"We got to know a particular family well. After we returned to New Zealand, a boy from the village came to live with us for three years while he studied. He is one of the RSE workers who returns to us each season."

Graham's contribution to Casevaia has been recognised by the villagers who have made him an honorary chief and gifted him a small piece of Custom Land near the beach, where they built a small house for the Dyer family.

"Aside from the money Ni-Vans earn working on the Dyer orchard, we opened an account at a local hardware store near the village in Vanuatu, to help with repairs when the village was demolished by the recent cyclone to hit the island.

"These actions are not about patronisation but about respecting each other as people and helping where we can."

The RSE scheme was launched in 2007, when the cap for bringing workers in was set at 5000 places. Recently, the Government increased the cap to 16,000 for 2021/2022. The scheme enables the horticulture and viticulture industries to recruit workers from the Pacific Islands for seasonal work when there are not enough New Zealand workers.

It also contributes to New Zealand's objectives for the Pacific, by encouraging economic development, regional integration and stability. In 2018, the RSE scheme saw the Pacific Islands benefit by more than $40 million.

The RSE scheme has been recognised by the World Bank as being one of the best migrant labour schemes in the world.

AVO UPDATE

World Avocado Congress comes to New Zealand

By Jen Scoular : NZ Avocado chief executive

In April 2023, New Zealand will host the World Avocado Congress for the first time ever.

As our borders reopen after the challenges of the global pandemic, we are delighted to welcome avocado visitors to New Zealand to showcase our industry and our beautiful country.

Taking place in Auckland from 2 to 6 April 2023, the World Avocado Congress will demonstrate New Zealand growing practises, food safety and quality systems and the ethical treatment of growers and communities that live in avocado growing regions. It also provides the opportunity to access innovation, global knowledge and science to support the growth of the sector.

The World Avocado Congress takes place every four years and attracts up to 3000 people from 50 countries. With a global avocado market worth US$8 billion in 2020 and expected to grow to US$17 billion by 2025, the congress has become the most prestigious global event to celebrate the avocado sector.

Supporting our showcase of avocados on a world stage, we are excited to have Mission Produce, one of the largest avocado growers and marketers in the world, join as first global foundation partner. We are very pleased to have the early commitment and support of New Zealand sponsors too: Darling Group as the Kiwi sponsor, Avoco and Radfords Software as the Tui sponsors, and Seeka as the Kereru sponsor. We also welcome our science partner Plant & Food Research Ltd, and event partners Auckland Unlimited, Tourism New Zealand and Horticulture New Zealand. Conversations are ongoing regarding further sponsorships and event partnerships, so don't hesitate to get involved.

After a tough season, the World Avocado Congress is something positive for us to look forward to. It is an amazing opportunity to have the scientific and technical brains of the global avocado community in New Zealand, sharing their knowledge, hearing about our industry and being part of the collective approach seeking to increase both supply and demand of avocados.

The congress is anticipated to attract some of the brightest minds in avocados, including growers, researchers, marketers, retailers, tech innovators and investors. The event will include a three-day academic programme with international keynote speakers, regional field days and plenty of opportunity to mix business with pleasure.

With less than a year to go, a lot of preparation is required to ensure we deliver a world-class World Avocado Congress. Ultimately, we want all participants to come away and say wow!

The website will be live with ticket sales from 1 June. The exhibition stands, sponsorship packages and the portal to submit abstracts will open on 16 June.

Register your interest, and get the latest updates on our website **www.wacnz2023.com**

NZ Avocado Growers' Association Inc. Commodity Levy Rates and Fees

Commodity Levy rates for the 2022-23 season were approved following the AGM on 31 March 2022.

Commodity levies:

- For avocados grown and **sold in New Zealand** for consumption as fresh fruit
  - the commodity levy will reduce from 3% to 2.5% of the selling price at the first point of sale.
- For avocados grown in New Zealand and **exported** from New Zealand
  - 35 cents per 5.5 kg tray.

Export systems fee:

- The export systems fee to deliver the strategy set out in the Export Marketing Strategy will be 20 cents per 5.5 kg export tray.

For further information contact New Zealand Avocado on 0800 286 2236 or email **info@nzavocado.co.nz**

NZAPI UPDATE

Introducing Terry Meikle

Sarah Cameron : NZAPI

Terry joined NZ Apples & Pears Incorporated in December 2021 as chief executive officer.

He came to the organisation with an impressive background of strategic management, international agriculture diplomacy and trade relations through roles including Agriculture Counsellor at the New Zealand Embassy in Mexico City, regional manager North America for Beef + Lamb NZ, and First Secretary Agriculture and Trade for the New Zealand Embassy based in Washington DC.

Q How are you finding the role, especially in such a difficult Covid-induced environment?

A I've thoroughly enjoyed getting out and meeting members around the country. I've spent a lot of the first few months listening to what they see as the highest priorities for the industry.

I am excited by the number of international touchpoints of this industry, having spent most of my career in international markets focussed on building deeper collaboration between public sector agencies and laying the groundwork for private sector commercial outcomes.

There are plenty of opportunities, whether that is about safeguarding and improving the Recognised Seasonal Employer (RSE) scheme, developing and expanding markets for our apples and pears, deepening research and development partnerships to fast-track innovation and automation, or designing leadership programmes to support Prevar ambition. And while I am excited by the potential, I'd be lying if I didn't say it's been a challenging first few months!

Q What are the biggest challenges you see facing the industry right now?

A While Covid-19 was nothing new to the sector in late 2021, Omicron established itself in New Zealand shortly after I took the reins. Then the Pacific Islands followed suit, which affected our ability to receive RSE workers. Next thing, the underwater volcano erupted off the coast of Tonga, adding an additional layer of complexity to an already tricky balancing act. A few weeks later, Putin invaded Ukraine. On top of that, China's ongoing Covid elimination strategy continues to cause port congestion and container shortages worldwide, while driving the price of freight to ridiculous levels.

The icing on the cake is the current global inflationary environment, which is raising input costs, combined with a slew of domestic legislation and consultation (Income Insurance, the Fair Pay Act and Modern Slavery and Worker Exploitation). In that context, it is sometimes hard to pick one!

But I would say the biggest challenge in the current operating environment is to safeguard the RSE scheme for the future. While it's recognised globally as a benchmark temporary migration scheme, there is unfortunately a groundswell of negative publicity building.

This is not helped by this government's current drive to bring back varying degrees of unionisation. These regulatory sticks are combining to create more bureaucracy, inefficiency and pressure on the system. Adding to the concern, we are also witnessing Australia drawing increasing numbers of Pacific workers, which is creating a brain drain from the Pacific Islands.

At the same time, we have the government convinced about the ability of our industry to transition from RSE to local labour and more automated production systems. If we can't get our fruit harvested, it is difficult to invest in innovation. All of these things combine to make safeguarding the RSE scheme the top priority. This will continue to be a major focus for the team and me in the coming year.

Q How can we overcome these challenges?

A We are fortunate that a number of relatively new fruit sector chief executives have come with a mission to try to build deeper collaboration across our sector body groups under the umbrella of HortNZ's leadership.

This is fundamentally important for growers paying multiple levies. The mission we are on is to deepen collaboration and partnership between industry and government. The key for driving greater collaboration is trust.

We are currently spending far too much time dealing with day-to-day operational issues across multiple government departments. Instead, we need time to focus on looking out to the horizon and planning for a brighter future. In this context, it is in the interests of our industry to fast-track the RSE review and sit down with all

public and private sector stakeholders (New Zealand and Pacific Islands) to map out what the future looks like, and to take the lessons of the past 15 years and make improvements.

The RSE conference at the end of July will provide a useful starting point for these conversations. If we get it right, it will be an even better model to showcase to the world. I certainly want that to be the attitude of our Ministers and government officials.

Q What is your sense of how growers are faring now that you've met with quite a few?

A Part of the reason I have always enjoyed working with rural New Zealanders is because they are hardworking and honest – two of my most highly rated values. Most growers want greater certainty and efficiency to help make their lives that little bit easier.

Covid-19 provided plenty of uncertainty. We can debate whether our response to Covid was good or bad, what I think is not up for debate is the fact that through this process, we have created massive inefficiencies by throwing resources (human and financial) at problems.

Now we are having to unwind that because there is massive duplication, and inefficiencies have been built into the system. Rural Kiwis aren't big fans of regulations at the best of times, but in these extraordinary times, they really are getting frustrated. In terms of this harvest, our growers are largely resigned to accepting it will be a tough year, but I'm hopeful they will bounce back next season.

Q Is the industry still on track to achieve $1 billion in export earnings this year?

A The impact of Covid-19 on the labour workforce means we won't get to the $1 billion in export earnings this year. Had Covid not been a factor, we may have got there last year and almost certainly would have this year. However, our sights are still firmly set on doubling the export earnings to $2 billion by 2030.

Again, the keys to this will be a combination of deeper partnerships and collaboration to force efficiencies; and certainty about labour to help drive investment and innovation. It will also require us as an industry to increase our access to mature markets, as well as opening one or two new ones.

Q Where does export growth lie for the industry and what is NZAPI doing to unlock this extra value? Or is there a broader growth story you would like to share?

A In my mind, Prevar is one of the keys to help NZAPI unlock greater export growth in the industry. It is one of the jewels in the crown.

The challenge for NZAPI is to ensure the benefits of the Prevar investment are seen to accrue to all members. Obviously, those invested in new cultivars will continue to benefit. However, I believe it can, and will be, a vehicle through which the entire membership benefits. In my mind, it is not zero sum. If we get it right, I believe it provides the model for wrapping around services such as research and development, leadership programmes and labour flows between partner countries where Prevar varietals are being grown.

Ultimately, the goodwill and exchange of youth and intellect complementing our intellectual property will create a new paradigm where we will have a two-way flow of young leaders, ideas and knowledge to help complement our export trade. The two strands won't always be directly connected, but they will be complementary.

On a personal note

Terry lives in Wellington with his family: his wife Carolina, their three children Siena, Enzo and Tiago, and dog Zico. He splits his working week between Wellington and NZAPI's head office in Hawke's Bay.

When he's not working, Terry enjoys playing 'old man's football' for Eastbourne Masters, and running and tramping. ●

Adverse weather hits TCE estimate hard

NZAPI released a crop re-forecast in mid-May, predicting a decrease of 12 percent on the organisation's pre-season estimate.

In January, the 2022 apple and pear crop was predicted to reach the equivalent of 23.2 million boxes (Tray Carton Equivalents, or TCEs, as they're known in the industry), destined for customers in more than 80 countries. That forecast has now been adjusted to be approximately 20.3 million boxes, a drop of 13 percent, representing an estimated reduction in export earnings of $105 million.

Hawke's Bay is expected to be 15 percent down on the January estimate and its East Coast neighbour, Gisborne, fared the worst of the regions, down 20 percent, with both having experienced major adverse weather events. Gisborne had over 530mm of rainfall during the season in multiple events, while Hawke's Bay had 321mm.

In Nelson, the growing season has been regarded as good, with the projected 9 percent decrease in the number of cartons produced being attributed to trees that were decimated by the hailstorms in the 2021 season not producing a crop this year. While the weather gods were notably better for growing apples in the South Island, port logistics and shipping disruptions and lack of containers have all impacted particularly heavily in the Nelson region.

NZAPI UPDATE

Sustainable apple and pear appointment

Sarah Cameron : NZAPI

Hannah Riley has joined the national industry organisation NZ Apples & Pears Incorporated (NZAPI), in the newly created role of global sustainability advisor.

The key purpose of the role is to understand sustainability in the context of apple and pear production to ensure the industry is able to meet global expectations. The key areas of work will be to understand trends in the global supply chain, identify areas of sustainability needed for exporters to manage customer expectations and manage a workplan to meet industry needs.

Hannah has a Bachelor of Laws and Bachelor of Commerce as well as a Masters of Climate Change Science and Policy. She has led climate change and sustainability projects as a consultant with BERL (Business Economic Research Ltd), and is a board member of Grow Space, a charity working to create inclusive and regenerative urban food systems in Tāmaki Makaurau Auckland.

"I am passionate about climate action and food sustainability, and excited to have the opportunity to support the apple and pear industry to navigate sustainability," says Hannah.

> "I am passionate about climate action and food sustainability, and excited to have the opportunity to support the apple and pear industry to navigate sustainability

Hannah Riley

Terry Meikle, NZAPI chief executive, says Hannah's appointment reflects the importance of the role sustainability plays, and will increasingly play in global commerce.

"Consumers globally are increasingly seeking evidence of how their food is produced and wanting greater proof of sustainability claims. Meanwhile, legislation, regulation and private standards are all trying to keep pace with what sustainability means in practice.

"The appointment of Hannah means NZAPI will have its finger on the pulse of these global sustainability trends, while supporting New Zealand research and development projects that help prove the sustainability of New Zealand's apple and pear crop. Together this will help provide the membership with clear signals and advice of the future direction of travel in this fast-moving space."

NZAPI UPDATE

New Zealand pipfruit industry conference – August 2022

By Sarah Cameron : NZAPI

The 2022 NZ Apples & Pears Incorporated (NZAPI) industry conference will be held at the Rutherford Hotel in Nelson from Wednesday 24 to Friday 26 August.

On Tuesday 23 August there will also be an Agritech in the Orchard field day, presented by Callaghan Innovation with NZAPI.

The theme of this year's conference is 'Adapting to New Horizons'. Two years on from the beginning of the Covid-19 pandemic, the industry has learned to modify and adapt to a new environment to ensure New Zealand pipfruit can continue to compete on the global stage, demand premiums and remain an industry exemplar.

New Zealand is widely regarded as the best apple and pear producer in the world, but to retain that title, we must continue to adapt and innovate.

> **New Zealand is widely regarded as the best apple and pear producer in the world, but to retain that title, we must continue to adapt and innovate**

The conference will explore how the industry can meet and succeed in these new environments, with presentations and discussions on the following themes:

- Growing our industry globally
- Strengthening our sustainability pillar
- Technology partnerships
- Telling our story.

The pre-conference Agritech in the Orchard field day will connect innovators, researchers and growers within the apple and broader horticulture sector. It will build a deeper understanding of industry challenges and available solutions. The day's programme will include knowledge-building sessions, networking and connecting opportunities, and finish in time for delegates to attend the NZAPI Annual General Meeting at 4pm.

For more information please visit **www.applesandpears.nz**

TECHNICAL

THE LATEST INNOVATIONS AND IMPROVEMENTS

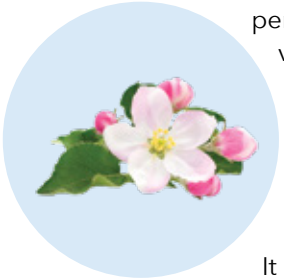
Positive production increase

The realisation that today's excellent is likely to be only average in the future is an interesting conclusion when talking to people about business sustainability. I have been working on orchards for more than 35 years and every year the bar gets lifted a little higher. Growers always have, and always will, need to look forward and find ways to improve.

Jonathan Brookes : AgFirst HB Ltd., Consultant

This is an industry of 'relentless incrementalisation' – or put another way 'profitability by 1000 little gains.' Being part of the horticultural industry is a multitude of things. It is challenging, frustrating, mentally stimulating, satisfying, and if you are working as part of the management team, seldom boring. It is the job for those that do not take the easy path, and instead prefer to explore the boundaries of achievement and conquer the unknown.

I strongly believe that one of the areas where we still have room for improvement is in driving the maximum sustainable production, in each individual block of trees, vines or plants. There is still a very large gap between the horticultural optimum performance of the best plants and the actual results from the average of all plants. In an existing production system, the key is not about making the best better, instead it is about getting those that are not performing up to the level of the others.



Using the AgFirst OrchardNet software, we can see that for most apple varieties, average apple production is often around $10,000 profit less than the upper quartile performance of the same variety. Even so, some varieties have a significantly wider range than this between their average and upper quartile performance. On varieties where margins are being squeezed, this could mean ten times the profit per hectare between excellent and average production results.

It is often portrayed in the media that chasing production has negative consequences for the environment or the consumer. The consequences cited include the use of more resources such as water, nutrition or sprays, or else a drop in quality through overcropping

or biennial bearing. This may be the case if you are trying to squeeze more production out of the top performing plants instead of getting the poor performers to step up. However, with the assumption that applications of fertiliser and water are relatively even across the block, improving lower end performance does not create a need for more resource input, as the top performing plants within the population are already getting enough.

It is more likely that if you have higher production of high-quality fruit, at the right fruit size for market, that your resource footprint per unit of food improves. Gains could be made in many of the major resource focus areas:

- Carbon
- Water
- Nutrition
- Labour
- Money (financial sustainability).

It is easy to talk about increasing production as being part of the solution, but harder to achieve it. Improving production does involve specific understanding, skill and effort to make the correct gains.

Start with a realistic yield target per plant.

You can't have more than 100% production without having some sort of negative result from it.

Growing up I have noticed that Kiwi business culture has a similar mentality across many different industries. The focus has historically been to get your best workers to work as hard as they can, and then give them a little bit more to do on top of that. This mentality is not sustainable. Something has to give. You can't do more than 100%, otherwise there is either a failure of work quality, work enjoyment or possibly worker health. While working hard can be healthy and sustainable, creating workload expectations that are not physically achievable is not positive, and the intended outcomes will not be attainable.

This same concept can be applied to plants. Do not try to get more out of your best performing plants, instead aim to get more out of those that are not pulling their weight. Target the plants where canopy is not fully developed, a full yield is not produced or fruit quality is below optimum.

Identify the plants that are not fully performing and quantify how big the problem is.

In 2013 I undertook the Kellogg Rural Leadership programme, where I put together a report defining the cost of within orchard productivity on apple orchard profitability. Although the data is nearly a decade old, the amount of variability within plants and the relationship between variability and profitability is still applicable to today's horticultural systems.

Below is a table with some of the findings from my report.

Tree Group Definitions	% of Population	Calculated $ Profit / ha.
Missing or new trees	Approx 2%	-$19,755
Weak or small average trees	Approx 25%	$8,516
Average size trees	Approx 45%	$14,435
Average large trees (excellent)	Approx 20%	$21,344
Extra large trees (scion rooted)	Approx 8%	$5,435

The average result from all the data collected indicated the example apple block should have made $14,435 per ha. Data from the entire block put through the OrchardNet database indicated the block would have made $13,153 per ha., which was close to my assumptions.

Twenty percent of the block was calculated to achieve $21,344 per ha. This is a gain in production of 18 percent over the block average, resulting in a gain in profitability per hectare of more than 30 percent. How do we get the rest of the block up to this level? Management options could include replacing scion rooted trees, or getting the weaker trees up to full canopy status.

Often finding the final solutions is the easy part and the hard part is quantifying and justifying the effort required to do so. There is a lot of work being done in the precision horticulture space to develop tools to help us quantify this situation:

- Electromagnetic mapping of soils
- Canopy and yield mapping using cameras and LiDAR (Light Detection and Ranging) scanning technology mounted on ground equipment
- Drones
- Satellite imagery.

The next stage is understanding the financial implications of the status quo. What are the costs and potential gains of making changes in the block?

For example: How much effort and financial investment should I make (in the project orchard example), to try to increase profitability by more than 30 percent or around $7,000 per hectare? In this block, an investment of $1,000 per hectare on scion rooted tree removal and young tree development, $1,000 per hectare in targeted pruning, and $1,000 per hectare on targeted hand thinning for a couple of years would go a long way.

Figure 1

Figure 2

Focus on the blocks where you can get the best return from your efforts.

We all know that not every block is created equal, therefore we should be concentrating our efforts where we are going to make the most difference.

Figure 1 shows a highly biennial block of Braeburn. The canopy volume is not full, fruit quality is not consistent, and the spacing is not conducive for a ladder free future. Consequently, effort and resources that are limited during the management and harvest of this block are probably better spent focussed more wisely within other parts of the orchard operation. Ask yourself: How do I target sensible gains in my moderate to high value or long-term future blocks?

Figure 2 shows a block of Envy™ planted on a site which had a high level of inherent variability. This block looked very similar to the Braeburn block in Figure 1 before it was replanted. However, detailed management during the development phase has meant that the Envy™ crop has minimal variability.

Chasing this block development excellence has not come without significant effort and cost. However, it has resulted in a block that is now much more consistent, with the opportunity to be more sustainable in the future. This block now allows for a greater efficiency of resources and improved yields of more consistent fruit size and quality.

With all this in mind, I will leave you with a very powerful (and slightly dark!) quote from W Edwards Deming, "It is not necessary to change. Survival is not mandatory." There is a bright future ahead for horticulture across New Zealand, but it will require growers to keep changing along the way. Shift your focus to new ways to make positive gains, and the best returns from your efforts should soon follow.

Establishing the right mix of native plants next to orchards offers opportunity to increase beneficial insects such as pollinators, says Brad Howlett

Not just honey bees – the other insects pollinating New Zealand's apple and pear orchards

A lack of insect pollination may not be a problem for New Zealand apple and pear orchards, but our heavy reliance on honey bees to deliver that service is risky.

Brad Howlett[1], Sam Read[1], Jan Grant[1], Jess Byrne[2], Ken Breen[2]

While apple and pear trees produce large numbers of flowers which often need thinning to optimise fruit quality, losing our insect pollinators would have serious consequences for yields. New Zealand apple and pear growers are amongst the most dependent on honey bee pollination in the world, with this insect delivering more than 95 percent of the pollination service in most orchards. This reliance on a single pollinator is precarious, as honey bee pests and diseases can appear suddenly and have major impacts on honey bee supply for crop pollination.

Fortunately for us, honey bees are not our only capable pollinators. Overseas, a range of insects are known to pollinate apples including bumble bees, native bees and flies. Bumble bees and certain fly species are particularly useful because they pollinate under cool, cloudy conditions when honey bees are not active. These insects can therefore minimise the impact of changeable weather on pollination. Furthermore, certain species can be equally or more efficient pollinators than honey bees, and may be less likely to be drawn away to the flowers of competing weeds and crops.

A buff-tailed bumble bee visiting an apple flower

Until now, we have known little about whether non-honey bee insects pollinate apples and pears grown in New Zealand. Owing to New Zealand's isolation we have an insect fauna that is represented by large numbers of endemic species, and these species have not evolved to pollinate apples and pears, but we know that at least some are capable pollinators of other exotic crops such as onions, carrots, brassicas, avocados and kiwifruit.

> "Research has been conducted to understand the contribution of non-honey bee pollinators

Over the past three years, research has been conducted to understand the contribution of non-honey bee pollinators to apple and pear orchards in New Zealand. Here we list the most useful non-honey bee pollinators of apples and pears. Our study focussed on two apple cultivars Fuji (14 orchard blocks), Scifresh (13 blocks) and the pear cultivar Piqa™Boo™ (9 blocks) across orchards in Hawke's Bay and Tasman.

Buff-Tailed (Two-Banded) Bumble bee

This bee (*Bombus terrestris*) is one of four bumble bees introduced to New Zealand during the 19th century, and one of two species capable of pollinating apple. They were observed in all apple orchard blocks in Tasman and in half the orchard blocks in Hawke's Bay. They were observed visiting fewer pear orchards – just five in Tasman. Buff-tailed bumble bees were found to be the most efficient pollinators of apples and pears. For apples, they deliver twice as many pollen grains to stigmas and move between flowers at almost twice the rate of honey bees. Buff-tailed bumble bees are available commercially to pollinate glasshouse crops such as tomatoes. In nature they commonly nest in ground cavities in non-crop habitats, often amongst tall grass, forming colonies of a few hundred bees.

A drone fly (left) and honey bee (right) foraging on hebe flowers

A blue hover fly on an apple flower

Drone fly

The drone fly (*Eristalis tenax*) is a hover fly found throughout the world. It is often confused with the honey bee because of its similar appearance. It is an efficient pollinator of apples. Compared with honey bees, it delivers similar amounts of pollen to flowers but takes twice as long to move between them. Drone flies are very common across New Zealand and are useful pollinators of a wide range of crops. Their larvae are aquatic and they can be reared on various decaying organic substrates. Research is underway to develop this species as a managed pollinator for seed crops: https://www.youtube.com/watch?v=ezqTsCqaaEI

Blue Hover fly

This fly (*Helophilus hochstetteri*) is a New Zealand native and a very good pollinator of apples and pears. When moving between flowers it delivers similar numbers of pollen grains as honey bees do, although it is somewhat slower in its movement between flowers (honey bees move three times faster). Despite its willingness to visit apple and pear flowers, this fly was rarely observed in orchard blocks. Larvae are believed to develop in aquatic environments containing organic material, but little is known about the optimal habitat and environmental conditions required to support populations.

Calliphorid flies

The Australian brown blow fly (*Calliphora stygia*), may be a nuisance in the house, but they are pollinators of New Zealand apples and pears. They are not quite as efficient pollinators as honey bees, as they deliver fewer pollen grains to flowers; but they have similar rates of movement between flowers. Calliphorid flies tend to be more active on flowers under cool, cloudy conditions, providing pollination when honey bees are less active.

Lasioglossum bee

This is a native bee that can be quite abundant in orchards if they are nesting nearby. *Lasioglossum* bees nest in a range of soil types and their nest holes can often be seen in bare undisturbed earth. They often form large aggregations of several thousand nests in areas no larger than 100 square metres. *Lasioglossum* bees are small (about 5 mm in length) and black, and can be easily overlooked unless they are actively being searched for. Although they pollinate both apples and pears, they are relatively inefficient pollinators compared with honey bees. In terms of moving pollen to flowers, they deliver about one-fifth the number of grains that honey bees do. They are also about five times slower moving between flowers. However, if they occur in high abundance, as witnessed in one pear orchard, they can still be important pollinators.

An Australian brown blow fly and a European blue blow fly foraging on mānuka flowers

Native Lasioglossum *bees can be locally very abundant in apple orchards*

> **Retaining non-farmed habitat on farms ... can support the immature stages of a wide range of pollinators while providing nectar and pollen for adult stages**

Encouraging pollinator diversity

Unmanaged pollinators have the potential to complement honey bee pollination and provide insurance should honey bees be limited in availability. They can be unpredictable in their occurrences and abundance within apple and pear orchards, but understanding the needs of different pollinators can help encourage their presence in orchards. Being aware of the life-cycle requirements of key alternative pollinators of apples and pears in New Zealand is a first step towards protecting their populations on orchards and farms. Retaining non-farmed habitat on farms, for example, can support the immature stages of a wide range of pollinators while providing nectar and pollen for adult stages. In kiwifruit and arable crops, work is underway to establish diverse native plantings designed specifically to support important pollinating species without creating habitats for pests. Such a strategy has potential application across a broad range of insect-pollinated crops such as apples and pears. In addition, avoiding the use of pesticides (particularly insecticides) during flowering will also help avoid the loss of pollinator diversity, particularly in orchards.

Acknowledgements

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A distinct lack of westerlies

Georgina Griffiths : Meteorologist, MetService

The year 2022 so far – a lack of westerlies

Farmers and growers are astute watchers of the weather because life and livelihood depend on it. January to May 2022 has been unusual in that Highs have favoured southern latitudes (Figure 1), while easterlies have prevailed across Aotearoa New Zealand.

Figure 1 shows the year-to-date weather map compared to normal. It indicates differences compared to climatology, with red colours showing areas with more Highs than usual, and blue colours indicating more Lows than usual. It is obvious that Highs have favoured southern latitudes (the area south of, and over, the South Island). In contrast, the region near Fiji has experienced more frequent Lows. In between, there has been a prevailing easterly wind regime – or in other words, a lack of westerlies.

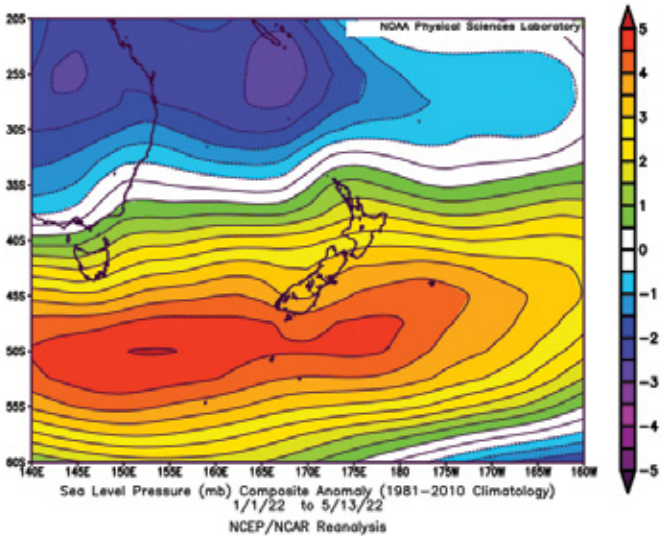

Figure 1: *The mean sea level pressure anomaly (deviation from normal) for the year 2022 so far (1 January – 16 May 2022). Red colours indicate higher than normal pressures, while blue colours indicate lower than usual pressures (more lows). Map produced courtesy of NOAA/ESRL Physical Sciences Division*

And while the ongoing La Niña conditions may have taken the blame, credit must also be given to a persistently quiet Southern Ocean, also known as a prevailing positive SAM (Southern Annular Mode), Figure 2. In other words, a lack of Southern Ocean storms washing up and over the country. The day-to-day weather maps during the positive phase often show high pressure south of the South Island (as well as over the Chatham Islands).

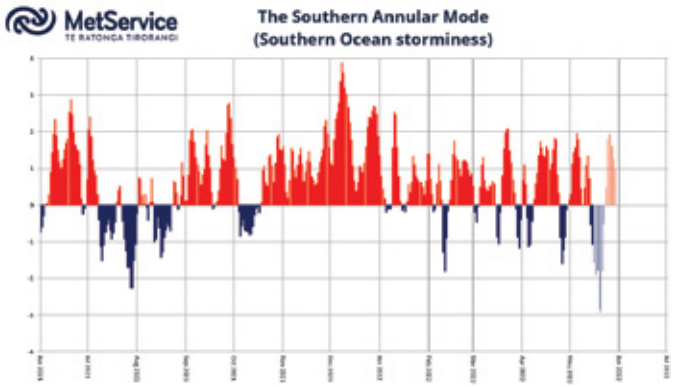

Figure 2: *A plot of the SAM from 1 January 2021 to 30 May 2002. Note the persistence of the positive (quiet) phase during summer 2021–2022, and then a prevailing positive regime through most of early 2022. The lighter (washed out) bars from mid-May to end of May indicate the forecast state of the SAM, predicting the first decent cold and stormy Southern Ocean outbreak this year*

The knockout combination of lows to the north and easterlies (La Niña) and a largely quiet Southern Ocean (positive Southern Annular Mode) led to an extended period of very low rainfall in Southland through the first quarter of 2022. A medium-scale adverse drought event was declared in Southland, Clutha and Queenstown Lakes on 1 April, acknowledging the extended dry conditions earlier in 2022 in these regions (Figure 3).

> **A wetter and warmer than normal winter is predicted for most regions of the North Island and upper South Island**

In contrast, areas exposed to easterly rainfall, such as Northland, Gisborne and Christchurch have run wetter than usual (Figures 4, 5 and 6), while Bay of Plenty and Nelson are sitting closer to normal (Figures 7 and 8).

Looking towards winter, all eyes are on the Tasman Sea, where an active subtropical jet is forecast to spawn frequent Tasman Lows, and a wetter and warmer than normal winter is predicted for most regions of the North Island and upper South Island.

Figure 3: Queenstown

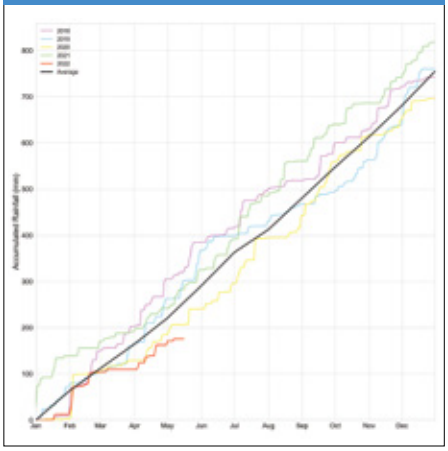

Figure 4: Whangarei

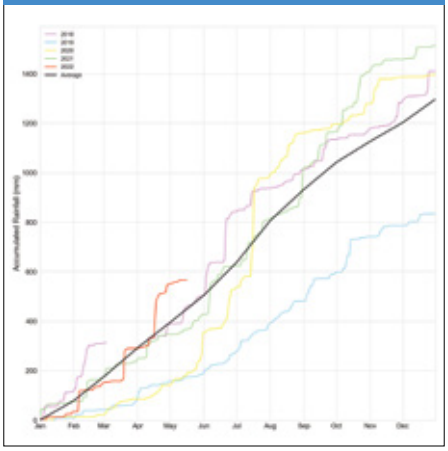

Figure 5: Napier

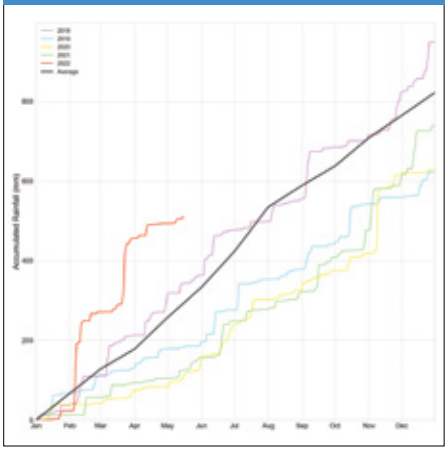

Figure 6: Christchurch

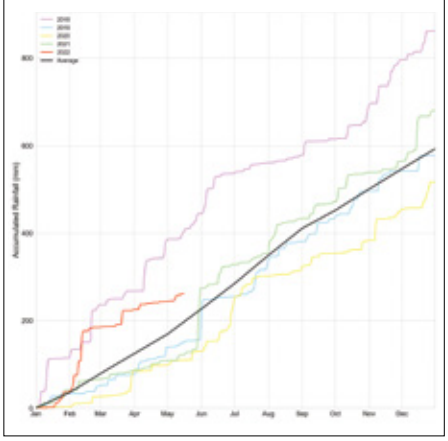

Figure 7: Te Puke

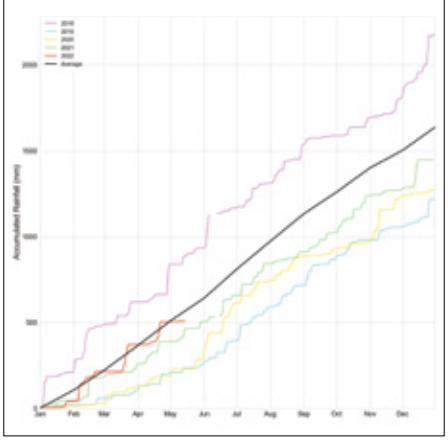

Figure 8: Nelson

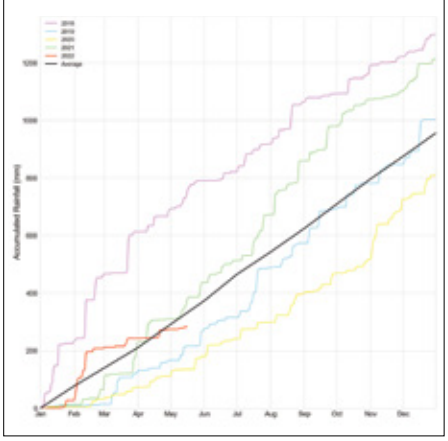

Figure 3: *Queenstown annual rainfall accumulation (mm) for the last five years (2018 to 2022). The annual average rainfall accumulation is shown in black. The year-to-date rain accumulation as at time of writing (mid-May) was 70 percent of normal*

Figure 4: *Whangarei annual rainfall accumulation (mm) for the last five years (2018 to 2022). The annual average rainfall accumulation is shown in black. The year-to-date rain accumulation as at time of writing (mid-May) was 128 percent of normal*

Figure 5: *Napier annual rainfall accumulation (mm) for the last five years (2018 to 2022). The annual average rainfall accumulation is shown in black. The year-to-date rain accumulation as at time of writing (mid-May) was 176 percent of normal*

Figure 6: *Christchurch annual rainfall accumulation (mm) for the last five years (2018 to 2022). The annual average rainfall accumulation is shown in black. The year-to-date rain accumulation as at time of writing (mid-May) was 135 percent of normal*

Figure 7: *Te Puke annual rainfall accumulation (mm) for the last five years (2018 to 2022). The annual average rainfall accumulation is shown in black. The year-to-date rain accumulation as at time of writing (mid-May) was 92 percent of normal*

Figure 8: *Nelson annual rainfall accumulation (mm) for the last five years (2018 to 2022). The annual average rainfall accumulation is shown in black. The year-to-date rain accumulation as at time of writing (mid-May) was 87 percent of normal*

As always, you should keep up to date with the MetService long-range forecast at **http://metservice.com/rural/monthly-outlook**, or ask us questions on the MetService Facebook or Twitter feeds.

New mowing tech for a lighter touch

Domestic and offshore demand for New Zealand organically grown fruit shows no sign of slowing. Flavour and quality are vital, but sustainability is right up there too, and consumers are willing to pay more for fruit from trusted sources.

To take advantage of this rapidly emerging market, growers understand the need for a 'lighter touch' approach to crop production – including less chemical use. Glyphosate-free goals are not just consumer driven but cost driven too. PrimeHort, New Zealand's major distributor of nursery supplies, confirms glyphosate has tripled in price in 12 months and is currently on its website for $385 per 20 litres.

From a commercial grower's perspective, it takes hard work and knowledge to bring the aspirations of spray-free growing to life, and innovative machinery is one of the levers to pull. Tim Logan of St Andrews Fruit is a premium PiqaBoo pear grower in Hastings who purchased a Fischer Mower to effectively mow under tree and inter-row to eliminate herbicide use.

For organic farmers – any farmer – the economic argument must stack up when investing in machinery, and this single purchase has eradicated expensive chemicals and is easy to operate. Tim is impressed with its performance and the savings he achieved by purchasing it through FarmShop. By directly importing machinery, FarmShop has eliminated the costly middleman.

> **"It takes hard work and knowledge to bring the aspirations of spray-free growing to life, and innovative machinery is one of the levers to pull**

Using adjustable hydraulic sensors, the Fischer Mower can mow right up to the tree and is precise and gentle – getting rid of weeds and helping maximise productivity.

Another key benefit is the hydraulic adjustable width – ideal for inter-row, under tree mowing. The ability to widen the mower allows up to 30 percent productivity benefits when mowing the headlands – simply widen and mow more in each pass.

The GL4 Fischer mower in action at an apple orchard

The GL4 model has two adjustable wings fitted with hydraulic sensors; the operator sets the wings to the desired mow width and the sensors softly and accurately guide the mower wings around the tree or vine.

The BV2 models are direct drive (no belts) and have an adjustable deck which can be altered during operation, giving the option of mowing an orchard with different crops or varying row widths. The extra low-profile deck allows the mower to pass under low hanging fruit without causing damage.

Fischer mowers are heavy duty with a gearbox rated for up to 120hp. The mower blades are robust with double wing tipped flail blades. Crop damage and fruit marking is minimised due to the mower's exceptional stone protection – again, adjustable to suit.

Another great feature is the ability to mount a swing arm on the side of a tractor for mowing directly under electric fences without having to turn off the voltage!

Finally, Italian-made Fischer Mowers have their own hydraulic power pack to give the perfect result regardless of the tractor from which they are operated.

Get in touch to request a demo.
0800 00 22 09 | sales@farmshop.co.nz
See the Fischer Mower in action:
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FarmShop

Growing technical knowledge to benefit growers

Since taking on the leadership role of the Research and Development (R&D) and Technical Extension teams at Fruitfed Supplies, internally known as the Technical Team, Kevin Manning has seen a greater focus on sharing the knowledge gained through R&D trials to the wider Fruitfed Supplies team, growers and the industry as a whole.

With each technical specialist having specific experience in either vegetables, subtropical fruits, plant nutrition, viticulture or pipfruit and summerfruit, the company's Technical Horticultural Representatives (THRs) are equipped to provide growers with recommendations based on the latest trial results and developments for a crop.

"We train our THRs and in-store teams so they are continually up-to-date across different crops, including new products to market. We take the knowledge we gain from our R&D trials and turn it into practical applications for THRs to take to growers. This includes producing spray programmes across all the crop types."

Kevin says the team contributes to the wider horticultural industry.

> **"We offer some unique insights into current issues due to our representation in the field, with THRs working across multiple crops. Our technical knowledge puts us in a good position to help**

Research is still a major component of the group's work. Product trials are conducted in the main growing regions of New Zealand with vegetable trials being held around Pukekohe, subtropical trials in the Bay of Plenty, apples and grape trials in Hawke's Bay as well as in Blenheim and Nelson. Further south, Canterbury hosts vegetable and arable crop trials.

As Kevin explains, these trials, "look at new product solutions to help grow the industry and allow us to gain a good understanding of how a product will fit into an integrated production system."

For product manufacturers, the Fruitfed Supplies team offer a unique understanding of the marketplace. "We're a reliable operator for manufacturers to conduct trials. With our THRs meeting growers every day, we understand the current issues, and this knowledge allows us to help manufacturers form meaningful research programmes and identify suitable trial sites," says Kevin.

Currently, the R&D team is trialling fungicides for disease control, herbicides for weed control while also focusing on biological products. As Kevin says, "in addition to insect pest, disease and weed control products, we have a strong focus on trialling biostimulants which increase crop productivity and improve plant recovery."

To communicate the outcomes of R&D trials to Fruitfed Supplies clients, the Technical Team travels the country to hold crop – specific meetings. These meetings provide growers with an overview of what has shaped the last season for a crop, what new products are arriving on the market and how they may fit into the growers' own production systems."

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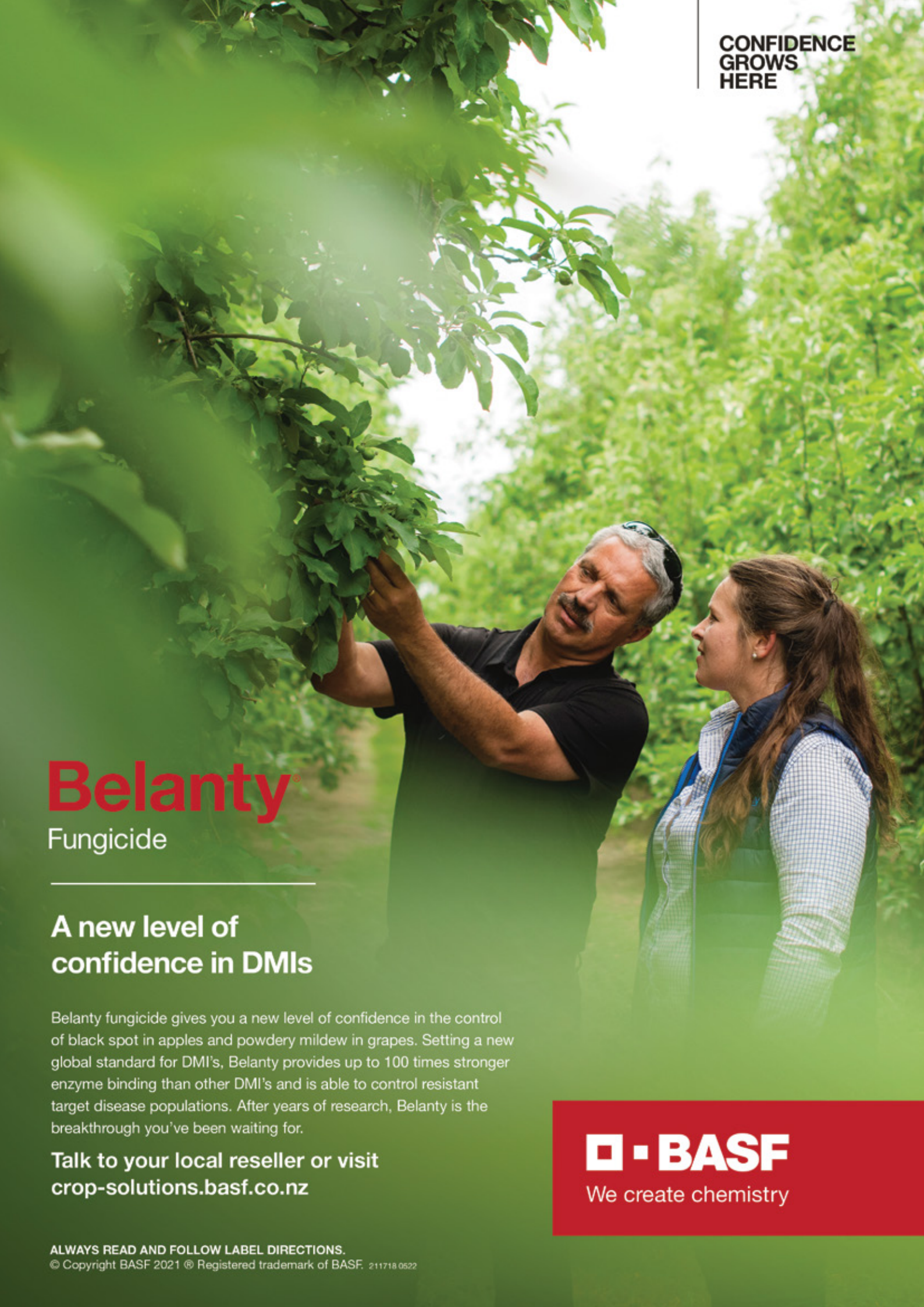

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