The ORCHARDIST®

VOL 96 | NO 10 | NOVEMBER 2023

HORTICULTURE NEW ZEALAND

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RSE Summer Special

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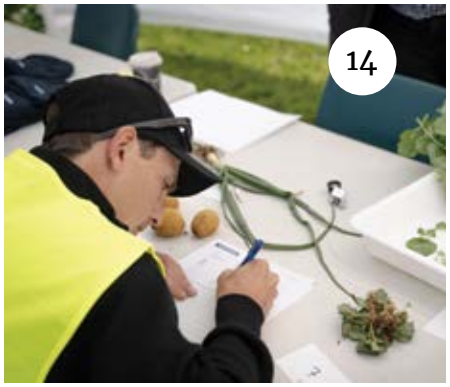

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What are the biggest challenges horticulture faces?

With a new government we are naturally keen to engage on the most significant issues that face our sector. So, for horticulture what are these?

Barry O'Neil : HortNZ president

Our Board recently had a strategy session where we asked ourselves that question. If we peel away some of the daily challenges, what are the key strategic issues facing us that could mean we are going to succeed, or alternatively if not addressed that we disappear over time.

We ended up with three core issues: Climate change and adaptation, water allocation and storage, and food supply and security. There are others of course but as we looked at those other issues we saw work was already well underway, and we are very engaged already to have policies that will support our sector in the not too distant future.

With **climate change and adaptation** what are our key issues? Arguably the country has spent too much time focused on mitigation without understanding we also in parallel need to adapt, or we will struggle to survive – as Cyclone Gabrielle unfortunately taught us.

We will always be growing on flood plains, and while covered cropping and even vertical farms will become more important in the future, they won't take us away from the majority of growing that happens now and will still in the future, on flood plains. We support landing a primary sector mitigation approach, but what about the adaptation part, which is also really as hard? Should people be allowed to live in potentially dangerous flood areas, or not? How do we get central and regional government, iwi, industry and community all agreeing on our flood protection systems working as they need to, cleaning out the silt and gravel regularly, strengthening banks regularly, building dams at the heads of major rivers for storage that can also control the flows etc? Sacrifice areas and spillways are probably needed for when water needs to be released, but how do we get agreement on where these are? And with all of this the big question is who will pay? And do we need an EQC (Earthquake Commission) type insurance covering land damaged by significant flood events, similar to earthquake protection, not covering 100 percent of the damage but covering enough to assist growers getting back on their feet?

Water allocation and storage is also fundamental to climate adaptation, as unfortunately the reality of climate change is both too much water, and too little with prolonged spells of hot and dry conditions. Re-allocation when it comes to over allocated catchments is really hard. Is it existing users who get priority, is it the most sustainable users who get priority, is it the most efficient users of water who get priority, is it that Māori land that is under-developed should also get priority? If it is going to be all of these, which is most likely, where as a country we will end up agreeing with this, then the only way out of this conundrum is to allocate more water; and the only way we can do that is by storing water when we have too much, for when the community, growers, and the river need it. It must be a win/win, and water storage can be just that.

We need to get serious about large water storage schemes, funded at least partially by government as well as by private investors, as users don't have the ability to front these initial costs; but we and others who use water can pay off the infrastructure costs over time by charges on water use. Water storage schemes need to be a partnership between communities for water supply, industry and Māori, so we all can support them, and we can all benefit. Small and medium-scale has its place as well, but the reality is if we are going to do this right, we will need scale to be more cost-effective.

Food supply and security is also totally aligned in the top three, and it is not just a domestic vegetable supply versus fruit export scenario, it is actually fundamental to what we as a country want our future to be. Do we want to be able to supply Kiwis with fresh and healthy fruit and vegetables grown in New Zealand, or are we going to allow an

outcome where most will be imported frozen…? That is the scenario we are facing, and to us it's a no brainer, we want our children and grandchildren to always have access to our own produce. And we need to get Kiwis eating healthy, nutritious food to address the health consequences we are seeing all too much of in New Zealand.

We can protect our highly productive land by regulation, but if the use of that highly productive land to produce fresh fruit and vegetables is not economically viable, then we will either have legal disputes as owners of that land look to sell into higher value uses, or owners of that land will look to use it in the most economically productive way, which in today's world is kiwifruit or dairying – and I don't think we want to see all our highly productive land go that way.

Smaller growers are very much struggling, as it is a fact of life that scale does allow greater financial viability through tough times, and we will see a future of more big corporate growers. But we also need to find a way of enabling the small and medium growers to remain viable, to provide the greater diversity of the 'what and when' with produce, as most other countries around the world have been able to do when recognition of the reality of food supply and security hits home.

There are other significant issues out there, a totally messed up resourcing and consenting system, an Environmental Protection Agency approval system that is for all intents and purposes broken, labour policies that seem to incentivise low productivity, etc. etc! But all of these are to us areas that the new government can address, and we are already well engaged in getting change with these.

Unfortunately it seems that as a country we are currently unable to come together to agree on solutions for the really hard issues, so we keep on delaying making decisions, and kicking the can down the road for someone else to handle. That is just not good enough and has to change; address them we must, for everyone's future.

Central and regional government, Māori, industry and community must find a way of working together to be able to make decisions within a reasonable time and cost framework. We are fiddling while Rome burns, and we can't take 20 years to land these issues, nor can we afford to spend hundreds of millions of dollars arguing the solutions. The solutions are under our noses, this is not rocket science and we need to all engage with open minds, understand the issues and options available, agree the way forward and make it happen.

Thankfully these issues and challenges all map and align into the work programme of the *Aotearoa Horticulture Action Plan*, which is in the process of being implemented. We need to all get behind it, as if we are going to progress and address these three issues, without everyone working together it won't happen. That's what the action plan has been developed for!

Kia kaha.

Government must 'prepare the ground'

Horticulture has a vital role to play in building, for the benefit of all New Zealanders, an economy which is sustainable both environmentally and economically. To facilitate this, our new government must 'prepare the ground' to create and maintain the conditions our industry needs to thrive and to continue to supply nutritious fruit and vegetables to New Zealand and the world.

Nadine Tunley : HortNZ chief executive

After the October election, on behalf of growers Horticulture New Zealand presented a briefing document to the new government. It focused on the *Aotearoa Horticulture Action Plan*, a partnership between industry, government, Māori and science, which doubles farmgate value by 2035 in a way that improves prosperity for our people and protects our environment.

HortNZ is recommending that the new government develop its work programme based on that strategy.

Within the action plan there are five immediate priorities under which the government can quickly make a significant difference, we focused on these in our briefing:

- Water storage
- Reliable supply of healthy locally grown fruit and vegetables for New Zealanders
- Streamlined assurance processes
- Employment flexibility
- Certainty for Pacific workers and employers.

There is also a big work programme for our industry, in partnership with the government, to increase resilience to climate change and tackle labour shortages and spiralling costs.

Predicted drier-than-normal conditions from the El Niño weather pattern will bring water availability and storage into even sharper focus.

So, we are encouraging the government to move rapidly to remove resource consent obstacles to new water storage, and to support investment in water storage.

As part of planning for resilience and adaptation to climate change, we are advocating that future water needs are modelled by region, crop, and growing systems (including on Māori land and isolated rural communities) and maps for strategic water infrastructure investments are evidence-based.

The ORCHARDIST

The Orchardist is produced by Horticulture New Zealand and is free for all levy payers. *The Orchardist* magazine is partially funded by a grant from the NZ Fruitgrowers' Charitable Trust to ensure all fruit growers in New Zealand receive a copy each month.

The individual comments and views in this magazine do not necessarily represent the view of Horticulture New Zealand.

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ISSN 1173-3802 (Print)
ISSN 2744-5992 (Online)

Many New Zealanders are struggling with the cost of living which is putting pressure on food budgets. With the right policy and regulatory settings, growers can provide a reliable and resilient supply of fresh fruit and vegetables and contribute positively to New Zealand's food security.

That is why HortNZ is encouraging the government to move quickly to signal the importance of horticulture in national and regional policies, so that central and regional government agencies are directed to reduce regulatory costs and constraints on growers.

We also want the government to keep pressure on supermarkets and the grocery sector through the Grocery Commissioner, who should hold supermarkets to account for their role in food waste and food insecurity.

One quick, easy and highly effective way to reduce the regulatory costs for growers is for government to recognise our current GAP (Good Agricultural Practice) certification framework as adequate proof that growers are meeting regulatory standards.

It is critical to ensure the standard under the Resource Management Act (RMA) for recognising industry schemes for Freshwater Farm Planning, provides a pathway for comprehensive recognition of the GAP programmes.

We are also urging the government to extend the legal recognition provided in the RMA to other domains, so GAP industry standards can be recognised as meeting regulatory requirements for:

- Food safety
- Social practice
- The Recognised Seasonal Employer (RSE) scheme.

Horticulture employs over 40,000 people but faces a labour shortage. There is much to be done in immigration and vocational training to grow a larger base of people with the skills needed.

The first, most significant step the government can take is to give the industry more flexibility in how it employs and rewards people by removing Fair Pay Agreements and other legislative barriers.

> "With the right policy and regulatory settings, growers can provide a reliable and resilient supply of fresh fruit and vegetables and contribute positively to New Zealand's food security

Workers coming to New Zealand through the Recognised Seasonal Employer (RSE) scheme are a vital part of our workforce. Without this scheme, we would be unable to harvest many crops. We want to ensure the RSE scheme is sustainable for both the Pacific and the horticulture industry.

To provide certainty, it is essential to rapidly conclude work on policies relating to accommodation standards, recognising industry assurance schemes, and keeping costs of compliance affordable.

HortNZ is looking forward to working with our new government to realise, for growers and all New Zealanders, HortNZ's vision: **Oranga kai, oranga tangata, haere ake nei, Healthy food for all, forever**.

YOUR LEVY AT WORK

INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD

Young Grower of the Year 2023

Page 14

Can plant diversity help orchardists to reduce pesticide use and increase production?

Gemma Young received the New Zealand Fruitgrowers' Charitable Trust Postgraduate Scholarship in 2023 to study the influence landscape heterogeneity and plant biodiversity have on horticulture systems. As she completes her Master's research, she took a moment to share her experience during the past year. Applications for the 2024 scholarship are now open.

The Orchardist staff

What is your research and what are you currently working on?

I am currently doing a Master of Science majoring in Ecology and Biodiversity at the University of Waikato, with my finish date being 5 November. My research is focused on the multiple benefits and trade-offs in increasing biodiversity in agroecosystems (focused on avocado ecosystems). The classes I took as part of my thesis were terrestrial ecology, conservation and restoration ecology, data analysis and experimental design, and environmental physiology. Currently I have just finished the draft of my thesis and am working on tying everything together.


Gemma Young

For work I am currently contracting with Stoneleigh Consulting and working around remote sensing (specifically hyperspectral imagery and satellite imagery) and Geographic Information Systems (GIS) in horticulture. The current project I'm working on is an avocado data analysis project to explore potential correlations between orchard conditions and practices and fruit quality assessments in the Australian export market. This is with NZ Avocado, AVOCO, Radfords Software Solutions and Map of Ag.

What inspired you to pursue a career in horticulture?

I grew up in Katikati, a small town best known for kiwifruit and avocados, meaning I was surrounded by horticulture for as long as I remember. My grandparents had an avocado orchard my whole life, and my dad had an avocado contracting business, and then in 2017 my parents also bought an avocado orchard. My first job was as a lab technician at Eurofins (back then known as Agfirst Bay of Plenty) testing the maturity of kiwifruit. I have been interested in science since I was a kid and this job introduced me to the technology and research side of horticulture, and that working in horticulture didn't just mean working on an orchard. In 2019 I went to university for my undergraduate in ecology and biodiversity and didn't think I would come back to work in the industry, but after getting an amazing opportunity to work at PlantTech Research Institute I learnt about how to incorporate my ecological background into horticulture, and how that connection has the potential to help mitigate and solve some of the pressing issues which are arising (such as pesticide spray, climate change, water quality and usage).

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Postgraduate scholarship winner Gemma Young collecting pollinator samples from avocado orchards

> **This year has flown by, and I have managed to achieve everything I had hoped to achieve**

What motivated you to apply for the scholarship last year?

In November last year unfortunately the company I was working for and which was sponsoring my thesis went into liquidation. After that happened, I was feeling a little lost, but was still really passionate about my project. To avoid getting a full-time job that wasn't related to my research, and so I could put all my energy into my thesis, I looked into what funding or scholarship opportunities there were for students in the horticultural industry. By word of mouth I found out about this scholarship and applied. My plans at that point had changed and I faced some uncertainty, but then the support through the scholarship helped me keep on track.

How did the year go compared to your plan?

I started my thesis in July last year. This year has flown by, and I have managed to achieve everything I had hoped to achieve. I found an amazing group of growers who let me collect pollinator samples from their orchards and access their spray diaries and packhouse data. The scholarship alleviated some financial strain and I was able to focus on my research, so I've managed to be ahead of schedule despite some time delays throughout the year.

Through working with growers and industry members the hard times the avocado industry is currently in has been evident. Despite these challenges, everyone I have dealt with has been really interested in my research and believes there is value in it. Despite the current supply and demand issues, biodiversity is still an important topic, and with farm environmental plans coming into place and global decreases in pollinators, it isn't something that can be ignored.

Did you attend the World Avocado Congress and Horticulture Conference in Christchurch?

Unfortunately I wasn't able to attend the World Avocado Congress, but I was able to attend the Horticulture Conference. The conference showed me how motivated we as a country are to make required changes, as well as the exciting opportunities there are in the horticultural industries with incorporating new technology. The conference made me optimistic about the future and how we as a country are going to respond to change.

What are your thoughts about differentiating New Zealand's products on the global market?

I think that reducing the pesticide used in New Zealand horticulture is an important step that we need to make, not only for reducing the environmental consequences but also in order to keep this 'clean green' marketing image which we pride ourselves on as a country. Compared to other producers I think that is the main thing that differentiates us. I understand that pests cause significant damage to crops and that to reduce pesticide usage there needs to be well researched natural methods of helping to control pest levels, which is why I think research like mine is important.

Would you recommend applying for the scholarship?

I definitely would recommend applying for this scholarship – the financial support definitely helped, but the networking opportunities provided at the conference with other students and with members of the industry was extremely valuable. Through this I was able to connect with industry

Global decreases in pollinators highlight the importance of biodiversity

members who were also working on similar research, who otherwise I would have never met. I think making connections with your peers (those studying in the industry with you) is important, because it can lead to knowledge sharing and a support network. This scholarship provided that opportunity. ●

For questions regarding scholarships, contact:
schols@hortnz.co.nz

APPLY FOR 2024 SCHOLARSHIPS

For the 2024 academic year, two postgraduate scholarships are available nationally. Every year Horticulture New Zealand and the New Zealand Fruitgrowers' Charitable Trust each offer one scholarship to a postgraduate student studying in New Zealand. These scholarships are offered to students undertaking postgraduate study because innovation and tackling challenges head-on is critical to the horticulture industry's future success.

Horticulture New Zealand Postgraduate Scholarship

This scholarship is valued at $10,000 and is awarded to a student undertaking postgraduate study in horticulture or a related field.

New Zealand Fruitgrowers' Charitable Trust Postgraduate Scholarship

This scholarship is valued at $10,000 and is awarded to a student undertaking postgraduate study specifically related to the fruit industry. ●

FEATURE ARTICLE

Without reliable access to water, such as the Tukituki river, planting high value crops is risky

Water water all around, but not a drop was stored

The potential for drought this summer raises questions once more about why, after years of discussion, no water storage solution has yet been found for Hawke's Bay. BONNIE FLAWS looks back to see how we got here.

The protracted quest for a water storage solution in Hawke's Bay remains a controversial subject with the public.

The need to increase river flows was recognised more than 20 years ago, and for more than ten years, discussions, consultations and plans about water storage options for the Tukituki catchment have preoccupied the regional council, growers, activists and mana whenua.

When I speak to him, Central Hawke's Bay cropper and Horticulture New Zealand board member Hugh Ritchie puts an obvious question on the table: "Why are we going into a summer now, having had more water than we know what to do with, and none of it is stored?".

The deluge brought by Cyclone Gabrielle wrought incredible damage, with the potential for up to a third of Hawke's Bay's horticultural sector to be wiped out. The region is now in the recovery stage, but it is feared the reset will involve consolidation and exits. A silver lining might have been the ability to store some of that voluminous water for what is now expected to be a long dry summer.

NIWA (National Institute of Water & Atmospheric Research) meteorologist Tristan Meyers says the climate drivers are not indicative of big rain events like they have been these last few years. El Niño is in full swing, and the positive Indian Ocean di-pole is another indicator, working in tandem with El Niño, to bring drying westerly winds to the region's vegetation and soils. There are less sources of moisture available for weather systems to come through and provide rain to the eastern parts of Hawke's Bay, he says.

"If there is a message to come out of all of this, it is that this season is going to be very different from the last few

seasons. I don't think you can use the same strategies. This season is different. Different to last year and the one before that, and the one before that."

Community led and for community benefit

One strategy might have been to store water, but there was nowhere to put it. "On a principled basis, everybody is fundamentally agreeing that storing water from peak flows to use in prolonged dry periods is the right thing to do. I don't think anybody argues about that," Hugh says.

In 2018, Hugh and three other Central Hawke's Bay farmers, plus two local businessmen, bought the consents and intellectual property for the Ruataniwha Water Storage Scheme from the Regional Council.

Depending on who you talk to, the farmers are either 'Water Barons', attempting to co-opt the future benefit of a nearly $27 million failed ratepayer investment, or local businessmen trying to secure and hold these assets for the benefit of the region.

Central Hawke's Bay cropper and HortNZ board member Hugh Ritchie would like to think that leadership and sense will prevail

Hugh says it was watching that investment go down the gurgler that spurred the creation of Water Holdings Hawke's Bay and the attempt to revive plans for the Ruataniwha Dam as a water storage solution. The ongoing public controversy has latterly led to a new approach.

Water Holdings Hawke's Bay, now owned by just Hugh and two other farmers, is in the process of putting the consents into a community trust in an attempt to show they're not just in it for themselves, he says. "We thought, bugger it, we'll give the bloody thing to the community as a trust to remove one more roadblock."

Options for this summer

That still leaves growers in a pickle this summer if drought eventuates. Any storage solution has a long time track ahead of it before there is any infrastructure to rely on in dry times.

As it stands, the National Policy Statement for Freshwater Management requires councils to set flow limits within rivers, and also on the amount of water that can be taken from groundwater, to provide for ecosystem health.

In Hawke's Bay and Gisborne, low flow water extractions are fully allocated from an ecosystems perspective, and in some cases over-allocated, which means the stream flows may fall too low in some catchments when it is dry. Flow limits set the volume of water that can be taken from a river or groundwater and the timing of that take, leading to restrictions for irrigators.

HortNZ general manager strategy and policy Michelle Sands says the regional councils have been trying to establish what an acceptable flow limit would be.

"In both these regions there is a need to start to think about how more water could be taken and if there is a better timing of the water taking, and how water can be shared between users so it can be used efficiently and have less environmental effects.

"In both regions, groundwater augmentation has been looked at – storing water in the aquifers or recharging the aquifers with water harvested in higher flows, and using the storage in the aquifers for maintaining stream flows at a higher water level for longer. HortNZ has been involved in supporting those policies. We think that is a good approach because it can provide for more reliable irrigation water and also support ecosystem health with more resilient stream flows."

> **"Why are we going into a summer now, having had more water than we know what to do with, and none of it is stored?**

But while there are some supportive politics in the Tukituki Plan Change 6, and the TANK (Tūtaekurī, Ahuriri, Ngaruroro and Karamū water catchments) Plan Change 9, they are in the process of being reviewed due to the new National Policy Statement for Freshwater Management (2020), which means there are likely to be more plan changes next year.

So, while there is a possibility that there will be new policies around water storage and augmentation, the process of actually getting a scheme up and running is very slow, uncertain and costly.

"And now we might be coming into this El Niño event, and while the aquifers are quite full, we may see low flows this summer which fall below the cease takes levels. That means that if you are an irrigator who takes water from surface water or close to it, you may have to stop."

The consequences for horticulture are serious with both vegetable and tree crops likely to lose quality or fail without water for prolonged periods. Reduced water reliability can also damage trees with the effect of lower production for several years after – and in severe cases rootstock may not survive, she says.

A recently released water strategy report from the council shows that the region could be up to 60 million cubic metres of water short going forward. Hugh Ritchie believes that is an under-estimation, with the Tukituki river needing 20 million cubic metres for environmental health alone, just to run at its minimum flow.

> **“We’re already behind the eight ball and over-allocated in Heretaunga and Central Hawke’s Bay. So where is the leadership to say ‘how do we solve this?’**

“The Tukituki has lifted its trigger points again, so those with stream depleting takes will be far more likely to lose access to their takes for longer through the summer.”

Without the reliability of access to water, it would be very risky to plant high value crops, he says.

“We’re already behind the eight ball and over-allocated in Heretaunga and Central Hawke’s Bay. So where is the leadership to say ‘how do we solve this?”’

“Part of our plan is that there would be a fifth of the water set aside for environmental flow. We believe that what we are trying to get across the line is still doable and fundamentally required. We’d like to think that leadership and sense will prevail,” he says. ●

Horticultural consultant and RMA decision maker Charlotte Drury says a dry summer could leave orchardists’ replanting rootstock vulnerable

ROOTSTOCK SURVIVAL

Complicating matters more, this summer orchardists will be replanting after the damage wrought by Cyclone Gabrielle. Rootstock is much more vulnerable to drought than mature trees with deep roots, which begs the question about how rootstocks might survive a long dry summer. There are provisions for rootstock survival water in the two Hawke’s Bay catchment plans, but the water remains difficult to take.

Horticultural consultant and Resource Management Act decision maker Charlotte Drury notes they both take different approaches too. In the Tukituki, there is the ability to take some water as a permitted activity below the minimum flow, but this requires consent, with no guarantee it can be obtained.

The Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchment also has a permitted rule that up to 20 cubic metres a day can be taken without consent for rootstock protection, but only if it was already being taken before 2020. If it was after the date the plan change was notified then only up to 5 cubic metres a day can be taken.

“That is a lot less water,” Charlotte comments.

HortNZ has appealed the provisions in TANK around survival water because they are not clear, and it wants to make them explicit. Once the plan change process is finalised then there is no way around it. There’s a chance this could change with the new regional fresh water planning instrument, but this won’t be notified until the end of 2027.

“The problem is going to be this summer with orchard replanting. This could leave growers vulnerable. New rootstock needs water to keep roots down, they are not as resilient.”

Charlotte says the regional council might choose to exercise some discretion this summer due to the potentially extreme circumstances. Another option is an Order in Council using recently passed Severe Weather Emergency Recovery legislation, which provided for this possibility.

“But that is just an idea, nothing is being progressed,” she says. ●

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YOUNG GROWERS

The regional Young Grower winners gathered in Pukekohe for the final

Young growers share hopes and passion for the future

Last month the country's top young horticulturalists showcased their skills in the 2023 Young Grower of the Year competition held in Pukekohe. HELENA O'NEILL chats with the six finalists about horticulture and the industry's future.

Taylor Leabourn, a 28-year-old produce lead, was named the 2023 Young Grower of the Year. As the Pukekohe regional competition winner, he said it was great to be able to compete for the national title in the region.

"It was so nice to be on my home turf, there were a lot of familiar faces, and it was pretty special for it to be in Pukekohe."

Taylor won the innovation, business, practical, and young vegetable grower categories before taking out the national title.

When Taylor won the Pukekohe regional competition in May, he was working as an agronomist at LeaderBrand. Nearly three months ago he started a new job as a produce lead for fruit importer SKU Ltd in Wiri, Auckland.

The gala dinner included speeches by the finalists

"It's been great to learn a new skill set and to test myself. I'm really enjoying it and it's been refreshing looking at the coolstore, warehouse, packhouse side of the horticulture business."

He says the horticulture industry needs to become better at telling its story to consumers; a view shared by other young growers.

The competition tested the vegetable and fruit-growing knowledge along with the skills needed to be successful growers. Competitors completed practical tests in nutrition and fertigation, tractor operation, integrated pest management, keeping everyone healthy and safe, agrichemical stewardship, and horticulture biosecurity. They also undertook two business activities: innovation and a leadership panel, as well as a speech.

Jan Buter, 28, from Hawke's Bay, was named runner-up and Young Fruit Grower of the Year; also winning the outstanding leadership and speech categories.

His winning speech was on diversity and development, two things he feels very passionate about.

"Having a diverse staff is a strength of a business. We develop them by giving them a mentor and a clear career pathway. If someone has the right attitude, give them those two and you will unlock the next star in your team. Starting the speech in Dutch was a fun twist."

The best thing about working in horticulture is the people, he says.

"Orcharding needs people, and it's great fun getting to know them. Being part of someone's development journey is about as rewarding as it gets!"

> **"... the horticulture industry needs to become better at telling its story to consumers**

Jan, a supply and continuous improvement technician for T&G Global, says there is lots of opportunity in the industry, but we have to work on how we become more resilient.

"We need to sell our story better. It's a great industry to be part of. There are too many stories of people accidentally getting into the industry. Let's become a preference."

Emily Samuel, 30, the Gisborne regional winner, is an orchard manager for Thompson's Horticulture.

"Working with permanent horticulture is such a great way to keep pushing yourself, there are continuous new technologies to help advance our growing capabilities. I want to be able to create a crop that has higher nutritional value and has helped to improve the land we are growing on."

Taylor Leabourn : National Winner, Pukekohe Regional Winner

Jan Buter : National Runner-Up, Hawke's Bay Regional Winner

Emily Samuel : Gisborne Regional Winner

She says there is a great opportunity for New Zealand to be a leader in horticulture sustainability.

"I believe there is an extremely great opportunity in front of us to be leaders in sustainability. If we want to a be a $12 billion industry, we need to create a space where everyone wants to thrive, whether that be pay, work/life balance, great initiatives or all the above."

Emily says that Horticulture New Zealand has already identified the focus points for the industry's future in the form of its *Aotearoa Horticulture Action Plan*.

"These five areas – grow sustainably, optimise value, Māori are strong in horticulture, underpinned by science and knowledge, and nurture people – are the key to us all succeeding, but people do need to come first. If we can create a more collaborative industry and work together regardless of what we grow, implementing and pitching ideas will be a lot easier and have a higher chance of backing."

Dillon Peterson, 27, of the Nelson region, says he had mixed feelings about taking part in the national competition, with a rush of nerves tampered by the excitement of making it to the finals.

The orchard hand from Hoddys Fruit Co says the biosecurity module was the most challenging, as his role does not expose him to that side of the industry.

"The Young Grower competition is a great opportunity to challenge ourselves and put our skills on display. One of the challenges of the competition and the industry is to get more young people interested in what we do and see horticulture as a career.

"What I enjoy about apples and pears as well as the industry as a whole, is the wide range of tasks involved that changes seasonally, so we are always doing something different."

Sydney Hines, 25, of Bay of Plenty, says the finals required a high level of preparation but enjoyed the competition, particularly the FrostBoss® horti-sports and the moon hopper race.

"It got the blood flowing and put a smile on our faces – and more importantly the faces of the spectators. I was hesitant to apply because of the public speaking aspect. However, decided there was nothing to lose and to get out of my comfort zone. I feel it is important for those wanting to develop to have a go at building experience in areas outside of your usual."

Sydney works in an avocado and kiwifruit orchard in Ōpōtiki and loves that the end product puts a healthy, nutritious and convenient snack on tables all around the world. She also enjoys being outside and the challenges the nature of the work brings.

She is positive about the future of horticulture in New Zealand.

"Throughout the years when Covid-19 caused disruption, there were still successes. Now, HortNZ has its goals for the industry and a plan to achieve these to further its success.

Dillon Peterson : Nelson Regional Winner

Sydney Hines : Bay of Plenty Regional Winner

Gregoire Durand : Central Otago Regional Winner

"My future in horticulture will be a long one – unless Dad needs my help on the [dairy] farm. In all seriousness though, I aim to be able to make positive differences for the industry big and small, so that generations to come also share the same outlook for the future of horticulture in New Zealand."

Gregoire Durand, of Central Otago, says the final was much harder than the regionals, but he enjoyed it.

"My most challenging module was fertigation and nutrition from Horticentre. My favourite module was the tractor module; it was cool to drive one of these big John Deere tractors; in the orchard we are used to smaller orchard tractors. I enjoyed the speech as well; I was quite nervous beforehand, but when I went on the stage all the pressure went away."

The 30-year-old works for Cherri Global as the Clyde-Roxburgh sector manager, overseeing a 50-ha block of cherries.

"Everyone loves cherries. Central Otago is a beautiful region, with amazing people. I find cherries to be a challenging crop to grow due to their delicate nature, which is exciting."

Gregoire hopes to continue working with cherries and has faith in the horticulture industry.

"In New Zealand, we are growing more than what we consume, and I hope it will stay this way. I want to stay working for Cherri Global, growing cherries. I learned everything I know with this company, and I still have so much to learn."

HortNZ president, Barry O'Neil, says the organisation takes great pride in hosting the Young Grower of the Year Competition final in different parts of the country every year and appreciates the support received from local growers.

Each of the six young leaders worked hard to get to the national competition and impressed us with their speeches, he says.

"Four out of six speeches focused on the *Aotearoa Horticulture Action Plan* outcome area of 'nurture people'. And nurture people we must. I encourage you to consider how you can contribute to this outcome area of the action plan to attract, retain and grow great people in horticulture."

HortNZ general manager of strategy and policy Michelle Sands says it is important to highlight the work of regional organisers who host and run the competitions across six regions.

"Their dedication is what drives this fantastic industry-wide programme, and our young growers wouldn't have made it to this national stage without them.

"It is important for us all to support the next generation of horticulture industry leaders. We are so fortunate to have so many passionate and talented young leaders pursuing careers in our industry."

YOUR INDUSTRY

ACROSS THE SECTOR — ACROSS THE COUNTRY

Colin Jones, Winner of the 2023 Horticulture New Zealand's President's Trophy

Colin Jenkins accepting the HortNZ President's Trophy at the Horticulture Conference in Christchurch with Bernadine Guilleux, HortNZ Board director and Barry O'Neil, HortNZ president. Photo by Smoke Photography

FEATURE ARTICLE

Colin Jenkins worked for 38 years for Ngāi Tukairangi, where as general manager he led the trust's orchard management team. Photo courtesy of Ngāi Tukairangi Trust

President's Trophy winner retires from kiwifruit

The Horticulture New Zealand's President's Trophy award winner this year was Colin Jenkins, who until his recent retirement, was general manager for Ngāi Tukairangi Trust. Under Colin's leadership, the trust's kiwifruit orchards have consistently performed in the top 25 percent in the country. He talks to CARLY GIBBS about a career well done.

When Colin Jenkins retired in July, it was the first time he hadn't lived on a kiwifruit orchard since 1985.

"It's strange," he says, of not seeing kiwifruit vines outside the windows of his new home in rural Ohauiti, near Tauranga.

He and his wife Jenny have owned the Ohauiti property for 18 years, but until now rented it out.

That's because they raised their seven children in two different houses on the 57ha green and gold orchard of Colin's employer, Ngāi Tukairangi Trust in Matapihi in Mount Maunganui.

At nearly 68, the time was right to retire and leave Matapihi, but it's also bittersweet, he says.

He dedicated 38 years to working for the trust, for which he was awarded HortNZ's President's Trophy in August.

The award recognises a passion for working on behalf of the horticulture industry, as well as a commitment to developing as a business leader and successful grower.

Colin says it was "nice to be recognised" even though he initially did not think himself worthy.

HortNZ president Barry O'Neil says Colin's quiet and unassuming leadership style along with his dedication to the industry and our people is an exemplar of what we should all aspire to be.

Ngāi Tukairangi trustees singing a waiata following Colin's award at the Horticulture Conference. Standing from left: Helen Te Kani-Matenga, Ratahi Cross, Ngawa Hall, Riri Ellis, Helen Ellis. Trust staff member Dorothy MacLachlan is seated. Photo by Smoke Photography

"Colin has been an ideal role model for a generation of orchardists. He has shown us all how horticulture benefits when we approach challenges with thoughtful, collaborative leadership. He is a very worthy recipient of the President's Trophy and I would like to also thank Ngāi Tukairangi for supporting him over his career."

Colin, the trust's general manager, was instrumental in helping to grow the organisation from humble beginnings to one of New Zealand's largest Māori-owned horticultural operations.

Under Colin's leadership, their kiwifruit orchards have consistently performed in the top 25 percent in the country.

Described by Ngāi Tukairangi Trust chief executive Riri Ellis as an "exemplary manager", Colin has been "respectful, diligent, careful, dedicated, considerate and level-headed".

"He scrutinised everything for its accuracy, and it showed in his results and his recall of specific details that very few other people could command."

An industry leader

Since its inception in the early 1980s, Ngāi Tukairangi Trust, which is made up of a governance board consisting of trustees, operational staff, management, and more than 1800 Māori shareholders, has acquired a total of 227 hectares, with orchards in Mount Maunganui, Te Puke, Northland, Hawke's Bay and Gisborne.

They are also shareholders in Te Awanui Huka Pak, Miro, Seeka and Rockit Global Ltd.

As well as owning nine gold and two green kiwifruit orchards, more recently they acquired 53 hectares of apples and 19 hectares of persimmons. Eighteen hectares of their total orchards are organic.

As well as a 6ha green kiwifruit orchard in Te Puke (purchased in 2010), the trust purchased 60 hectares of kiwifruit across four locations in Hawke's Bay in 2017, in an operation named Heretaunga.

Heretaunga doubled production in its first two years and has the largest area of overhead shelter cloth in New Zealand.

"There was a lot of expansion from that point on," Colin explains, at which point he moved from "hands-on" manager to general manager, responsible for leading the trust's orchard management team.

He was also a representative on the Seeka Growers Council.

Over the last couple of years there has been more investment in Hawke's Bay – with over 50 hectares of apples in predominantly Rockit™ and Envy™. Some of the crops were pre-existing but there is also a new 18ha apple development in 2D growing systems.

Over the years of growth, Colin has overseen fraught times with the demise of Hort16A from Psa, and more recently, the devastation from Cyclone Gabrielle in Hawke's Bay.

However, in both instances, he has positive stories.

On Psa, the trust swiftly moved to graft over their Matapihi Hort16A vines to G3. Two advantages were that they were

already G3 trialists and had knowledge of how to grow it. They were also debt-free so they could immediately invest in conversion.

In dealing with the aftermath of Cyclone Gabrielle, they again needed to act quickly.

Their gold crops took the biggest battering. Not far off from being harvested, they lost around 650,000 trays of what they had estimated to contain 900,000.

One 22ha orchard was "smashed" with silt half a metre deep, and some structures were washed away after the Tutaekuri River breached at both ends of the orchard. However, after a lot of work, half of that orchard is back in production. The future for the other half is uncertain.

Fortunately, with the apples the damage was less severe, and while apples were lost at the bottom of the trees, the remainder was harvested, albeit in muddy conditions.

Colin and Ngāi Tukairangi Trust are no strangers to hard work.

In Matapihi, Zespri would bring international tour groups through their orchard and host field days. One past guest was Princess Anne, who had lunch on Colin and Jenny's front lawn.

Colin's background

Colin's foray into orchards began on Auckland's North Shore.

His parents were market gardeners, and when he finished school, he worked for a strawberry grower in Albany before embarking on a horticulture diploma at Massey University.

He then came home and grew strawberries and tomatoes before leaving again to do a degree in horticultural science at Lincoln University in the late 1970s and early 1980s.

> "He scrutinised everything for its accuracy, and it showed in his results and his recall of specific details that very few other people could command

From there, he worked for the Ministry of Agriculture and Fisheries as a horticultural advisor, and that job brought him to Tauranga. He was employed at Ngāi Tukairangi Trust as assistant manager for two years, before becoming manager and then general manager.

"I wanted to get back on the land, having been brought up on it," he says.

One of Colin's first co-workers is now chairman of Ngāi Tukairangi Trust, Ratahi Cross. Ratahi got a job as a fruit picker in the Matapihi orchard and Colin was the assistant manager.

"When Colin came to us, he was a young man full of vim and fire, and he was looking to establish a career," Ratahi recalls.

It wasn't long before a diligent Colin made his mark. A quiet, thorough thinker, he inspired trust.

Trust was important for Ngāi Tukairangi because, at the time of Colin's appointment, their Matapihi orchard wasn't doing well. Most kiwifruit owners, including Māori trusts, were bailing out of the industry.

"We needed somebody who would inspire us, and Colin inspired us right from day one. Our total success in the original start-up, which is in the Bay of Plenty, is down to Colin," Ratahi says.

Ngāi Tukairangi's Hawke's Bay operation, Heretaunga, includes the largest area of overhead shelter cloth in New Zealand. Photo courtesy of Ngāi Tukairangi Trust

He delivered "fantastic" results, but equally endeared the organisation with his humility.

He never assumed to be better than anyone else in the industry, but always held a compelling argument, Ratahi says.

He became like a family member and they wanted the Matapihi orchard to feel like his own. He left them this year with a forward plan in management and succession.

"The guys who are now managing Colin's empire are great understudies of Colin," Ratahi says.

A new era of growing

While the last few years have been challenging for horticulture – due to increased labour costs, and mild winters in the Bay of Plenty and Northland impacting kiwifruit bud break and flowering – Colin says they have persevered and have high hopes for very good productivity going forward.

Ngāi Tukairangi has moved to a more sustainable approach to growing by ceasing to use herbicides in their orchards, and instead using under-vine mowing, and have planted native trees in Matapihi and Hawke's Bay orchards that back onto the water.

Colin feels that horticulture remains a great career for young people.

The challenge going forward will be to find more "efficient and smarter" ways of doing things than the industry has done in the past, he says.

This includes learning and making use of new technology. In the apple industry, they are using solar-powered picking platforms. Spray technology could involve drones flying ahead of the driver, feeding back where the spray needs to go.

Embracing new varieties of kiwifruit will also become important, he says. Green growers are suffering financially and there is an increasing worry that the gold kiwifruit market will become oversaturated and bring down premium prices.

"Over the years, we've been trialists with new varieties and I think there are some interesting things in the pipeline hopefully, in the next five years."

The trust said no to growing red kiwifruit, believing there will be a better red that will come in the future.

"The red that they've got was important to get into the marketplace because there was a gap for it. But there'll be other new varieties as well, and hopefully, green growers if they continue to struggle the way they are, will get an opportunity to get into these new varieties without having to pay a huge amount of money for them. Hopefully, Zespri will be kind to them and let them get in and that will help them to make some money in the industry."

Colin's role has been taken over by employee Andrew Wood, who previously held the role of regional manager.

The trust is in good hands with "very capable managers" Colin says, and he is now looking forward to some rest, time with family, and gardening.

The deputy chairperson of Ngāi Tukairangi Trust, Neil Te Kani, says Colin's contribution to Ngāi Tukairangi has gone beyond orcharding.

Colin had the respect of "some of the greatest Māori leaders of our generation".

"Turirangi and Hinerau Te Kani, Roimata Cavill, Kihi and Maria Ngatai, Wiparera Te Kani and Mahaki Ellis had kiwifruit coursing through their blood. As much as Colin thought he had the privilege of standing on their shoulders, truth be known, they and we were standing on his," he says.

"Colin possesses that rare quality of humility. His actions certainly speak louder than his words.

"There is an old Māori proverb that I believe encapsulates Colin – 'Kāore te kūmara e kōrero mō tōna reka'. 'The kūmara does not speak of its own sweetness'.

"This is so very true of Colin." ●

For more information about Ngāi Tukairangi Trust visit:
ngaitukairangitrust.co.nz

See our RSE Summer Special on pages 58-76

RSE FEATURE

NGĀI TUKAIRANGI FOSTERS VILLAGE-IWI TIES WITH FIJI

Under Colin's leadership, Ngāi Tukairangi Trust forged its own path in the Recognised Seasonal Employer (RSE) scheme.

After years of employing locals and gangs of workers of Indian ethnicity, the trust diversified and in the last three years has involved RSE workers with the help of the Fijian government.

The trust chose to recruit workers from one village only, Nuku village, to foster a "village-iwi relationship".

Because of Covid-19, they initially had a delay getting Fijian workers, so recruited from Samoa. They have since brought 20 workers over from Fiji and Samoa, and have been approved for another 20, who will go to Hawke's Bay.

The trust has houses in Hawke's Bay that they are converting into accommodation, and in Matapihi they have built a village in the last three years that can take up to 24 people.

The plan for the future is to bring Fijian elders over and invest in projects back in their village. The trust prides itself on ensuring that cultural connections between the Pacific tribes are honoured.

Colin says the RSEs are great workers.

"They sacrifice a lot, leaving behind their families to come over to New Zealand, and we need to give them quality accommodation and make sure their needs are met with very good pastoral care," he says.

"Government agencies need to enforce the rules that are already in place to ensure this happens, so a few maverick growers don't take advantage of them and bring bad publicity to our industry."

Colin would also like to see it made easier to move RSE workers between regions to fill workflow gaps, especially if they have the same employer and approved facilities.

"Overall, the scheme is brilliant, he says. "A win-win for both growers and RSEs." ●

The semi-autonomous GUSS sprayer, pictured in action in Mildura last month, is a joint venture between John Deere and California-based GUSS Automation

Spray automation is the future

Last month John Deere invited The Orchardist *to see their latest innovations at an event in Mildura. We asked Grace Rehu, winner of the 2023 Ahuwhenua Young Māori Grower of the Year, to represent us and share her findings. Grace is a leading hand at T&G Global in Puketapu.*

Grace Rehu : Ahuwhenua Young Māori Grower of the Year 2023

John Deere has had a huge push in Australia to invest more into high value crops with more efficient and useful machinery. The flow-on is to bring them into New Zealand as well.

The American machinery company has its Australia and New Zealand headquarters in Queensland but organised an event in Mildura to demonstrate their new solutions now in use in the United States for tree crop and viticulture customers.

There are already quite a few competitors vying for the automation market in the United States, including New Zealand's own homegrown Robotics Plus. Australia and New Zealand are obviously much smaller markets so it's interesting that John Deere regards us as such an important market for automation and sustainability.

John Deere's demonstration took place at the SuniTAFE SMART Farm outside Mildura, which covers 31 hectares. Mildura is a bit like Hawke's Bay with lots of horticulture in the area particularly grapes and citrus, and is known as the centre of Victoria's food bowl.

I enjoyed seeing the products at an orchard, in the environment they will be actually working in rather than in a showroom. It makes it easier to envision them in use where I am already working.

The event altogether was very cool. Being able to see the new innovative technology and machinery coming through is exciting. There are so many benefits to each of these innovations. I can definitely see how they would be great to use in New Zealand.

At their Mildura event, John Deere demonstrated their new 5ML orchard tractor which was introduced to Australia at the beginning of the year

Their most impressive innovation is the semi-autonomous GUSS sprayer, which was unveiled at Hort Connections earlier in the year. It's part of a joint venture between John Deere and California-based GUSS Automation. John Deere teamed up with GUSS because they wanted to put more resources into high value crops and address challenges growers have with labour shortage.

At the event I met GUSS's chief operations officer and co-founder, Gary Thompson. It's an expensive investment but I definitely think innovation and automation is key for the future as it will make working safer and more environmentally friendly. John Deere said they have had some interest from New Zealand growers to import the GUSS, particularly kiwifruit growers.

Grace Rehu

Using GUSS technology, multiple machines can be remotely monitored by a single operator and use a combination of GPS (global positioning systems) and LiDAR (light detection and ranging) technology, vehicle sensors and software, to move and navigate through crops.

John Deere says that this combination of technologies has overcome the challenge of GPS guidance under orchard canopies and guides the GUSS efficiently through crops. The computer system looks very easy to use and they say anybody can learn it and then operate and monitor the GUSS sprayer.

One thing I found very useful on the GUSS was the downtime to fill up the sprayer – as short as three minutes for a 2200-litre tank. That could save a lot of time and money for businesses. Sometimes manually filling sprayers can take around 30 minutes. The fuel tank in the GUSS can last between 12 and 13 hours on run time.

The upkeep and maintenance of the machine is very easy – grease points in easily accessible places, filters easy to clean. A big part of their pitch was around safety. They want to make sure that all their products can be used safely and have less potential harm for people.

Overall, I found the GUSS sprayer one of the most impressive pieces of machinery I've seen yet in horticulture. It would also be very useful in apple orchards as you can change the fan towers to suit the crops and have the best coverage.

The Smart Apply® Intelligent Spray Control System™ was also a very cool system to see in use. In July John Deere announced the acquisition of precision spraying equipment manufacturer Smart Apply Inc. The Indianapolis-based company developed the spray control system

John Deere also demonstrated their Smart Apply® Intelligent Spray Control System™ which works with any air-blast sprayer

as an upgrade kit that can improve the precision and performance of any air-blast sprayer.

It uses LiDAR to sense the presence of individual trees and vines and automatically adjusts spray volume based on foliage density to optimise protection. The system stops spraying between trees and rows, adjusting without human intervention.

> **I definitely think innovation and automation is key for the future as it will make working safer and more environmentally friendly**

The company says that Smart Apply helps growers reduce chemical use by an average of 50 percent and an up to 87 percent reduction in airborne drift. With less chemical use, growers also average a 50 percent reduction in water use.

What I liked about Smart Apply is that you can also put in 'no spray' zones so that the system will automatically know not to turn the nozzles on when it comes to this area. While you are spraying it will also take data about the trees like tree height and width, so you can track your tree growth. It is also able to spot tree disease at the same time.

Smart Apply also has a mapping system so you can track how the spraying is going, and you won't be able to double spray a row as it will have detected that it's been sprayed already.

Seeing this system in action was great as I could see first-hand the benefits it will have in spraying. Being able to monitor your trees' growth at the same time is amazing.

The John Deere team were very passionate about these products and very engaging when talking about them. I learnt a lot about automation and how it will impact us and the environment positively in the future. I would love to see them hold similar events in New Zealand to show our growers what is coming. ●

AHUWHENUA TROPHY

Grace Rehu is the winner of the 2023 Ahuwhenua Young Māori Grower of the Year, which recognises the achievements of young Māori in the farming and horticulture sectors. The horticulture competition is every three years. In 2024 the competition is for dairy. Entries are now open.

www.ahuwhenuatrophy.maori.nz

The Orchardist would like to thank John Deere, Horticulture New Zealand and T&G Global for supporting this article. The views expressed in this article are Grace's personal observations.

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Rockit development on Turley Farms in Canterbury

A burgeoning apple industry in Canterbury

Canterbury's tiny apple industry is undergoing massive change, with pastoral and arable farmers adding apples into their mix and plans for new post-harvest facilities taking shape.

Anne Hardie

Rockit is already making its mark as one of the region's potential major players, joining forces with Turley Farms which owns a substantial operation involving stock, arable, vegetables and now pipfruit on different blocks that total about 3000ha.

Last winter, the joint venture planted 20ha of the snack-sized apple at Rangitata and Rockit's commercial general manager, Tom Lane, says that will expand considerably. Rockit and Turley Farms are now seeking a third partner to join them in developing a further 80ha on the block by 2025. The company is also working with other farmers and growers in Canterbury with a goal of having up to 600ha eventually planted in Rockit throughout the region.

"We are very focused on how we can increase and future-proof our supply footprint in New Zealand," he says.

Modelling different climate scenarios in different regions identified Canterbury as a strong contender for expansion, he says, with its abundance of land and water, the likelihood it will benefit from climate change, and even the separation by the Cook Strait providing additional biosecurity protection. Plus, apples are a perennial crop that require less water and nutrient inputs than the dairy and cropping that cover much of the Canterbury Plains.

Rockit has been trialling its apples on different blocks in Canterbury, including Turley Farms, before cranking up planting.

"Turleys have a well-deserved reputation for successful innovation and diversification and are closely watched by other growers in the region."

Over the past few years, Turley Farms has established a trial orchard with different varieties under the supervision of their own in-house agronomist. Tom says the expertise and insight they had already gathered before approaching Rockit gave the company confidence Turley Farms was the right partner to pioneer the variety in the South Island.

Tom says Rockit is also working with other apple varieties and landowners to plan and develop post-harvest facilities near Rolleston. A location has already been selected that has access to road, rail, shipping and a large labour pool.

He says banks were initially cautious about apple development projects in the region, in part because their expertise lay in dairy and arable operations. But in the past couple of years there has been increased focus on diversification opportunities, including apples.

Rockit™'s high value has helped attract growers and investment, Tom says. Recent New Zealand Trade and Enterprise figures for New Zealand apple sales into China showed Rockit selling for US$7.79/kg compared with average New Zealand apple prices of US$2.41/kg.

Until this year, there have been just 13 apple growers in Canterbury on 16 orchards, according to figures from NZ Apples & Pears. In all, it has added up to 186ha or two percent of the national crop.

Back in the 1990s, Canterbury had the country's largest corporate orchardist, Apple Fields, which had 720ha on the outskirts of Christchurch and had the capacity to produce 1.5 million cases of apples a year. But when it clashed with the Apple and Pear Marketing Board's single-desk-marketing strategy, it ended up in long, expensive court battles.

Although it eventually won, Apple Fields later went on to quit the industry and concentrate on property development, and today houses have replaced the orchards.

Rockit's commercial general manager Tom Lane

Near Timaru, M A Orchards has been growing apples since 2012 and is now a joint venture between Milford Private Equity and Bostock New Zealand with about 100ha of organic Honeycrisp. The variety requires a colder temperature to develop flavour and texture and with just one variety, M A Orchards' apple harvest is done and dusted in three-and-a-half weeks.

Technical manager Carla Clelland says apples have been a small industry in Canterbury, but now blocks of apple trees are popping up on other properties as landowners add more diversification into their mix.


SPRING BLOSSOMS IN AN ORCHARD NEAR CHRISTCHURCH, IN THE CANTERBURY PROVINCE, SOUTH ISLAND.
A corner of Mr. B. J. Turner's apple orchard at Woolston. The Sturmer trees shown were planted in 1918.

Apples have a long history in Canterbury, illustrated in this 1938 issue of The Orchardist *showing Mr B.J. Turner's apple orchard at Woolston*

"I think it has got potential for some quite massive growth. There's plenty of land – hectares and hectares of flat, fertile land."

She says one of the reasons for adding apples into the mix is the low environmental impact of an apple crop at a time environmental regulations are tightening. Another reason is the ability to create a small, intensive operation for a family member within a family farming business. Canterbury also offers geographical diversification for businesses seeking a way to manage climatic risk, she says.

> **"I think it has got potential for some quite massive growth**

"If the production of a variety or brand is badly impacted by climate or other factors in one growing region, having a supply base with geographical spread means that there is likely to be some fruit available to supply customer programmes.

The region's lower rainfall means it is also ideal for growing organic apples, she says. But it is cooler and the challenge will be finding varieties that are a good match for the climate. Honeycrisp works and so does Rockit because the Canterbury climate naturally grows smaller fruit.

Carla says one of the stumbling blocks to growth has been the need for post-harvest facilities. The bulk of the region's apples head by road to Nelson where they are packed and shipped out of the port. Some fruit is held in coolstores in Canterbury though, before it heads to Nelson.

Honeycrisp has different cool storage which requires more challenging coolstore logistics, and growers send the fruit to Nelson when there is a packing slot available. Carla says the region "really needs a packhouse down here", with multiple port options at Timaru, Lyttelton and Port Chalmers to export its fruit.

NZ Apples & Pears chief executive Karen Morrish agrees, saying further investment in post-harvest facilities will be required in Canterbury to support the industry's growth, including both packhouses and coolstores, which it is keen to support.

She describes Canterbury as an emerging area for the apple and pear industry and is excited about its potential. Its climate offers different growing conditions that suit particular varieties of fruit, and also offers access to water.

"Pipfruit is certainly an option for farmers in the pastoral sector looking to diversify and replace growth forsaken due to environmental constraints."

Prior to Cyclone Gabrielle, apples and pears was a $900 million industry with a projection of reaching the $2 billion mark in a decade, and Karen says increased planting in places like Canterbury will support that growth.

"Regardless of Cyclone Gabrielle, diversification and growth in Canterbury and in other areas around the country is something we are pleased to see and keen to support."

FEATURE ARTICLE

First Fresh new variety development manager Matthew Carter (left) and chief executive Ian Albers (right) were keen to get behind Mangapoike Horticulture Orchard owners Tam (pictured centre) and Dan Jex-Blake

Trellis-growing could be a 'game-changer' for citrus industry

While it has long been used for products like kiwifruit, persimmons and apples, trellis-growing is new for the citrus industry but, as KRISTINE WALSH learns, offers exciting opportunities.

It was a case of pulling triumph from adversity when a Gisborne grower came across what she believes could be a game-changer for the New Zealand citrus industry.

There had been both hits and near-misses when Cyclone Gabrielle sent forestry slash and silt barrelling through Tam and Dan Jex-Blake's orchard at Manutuke, 15 kilometres inland from Gisborne city.

Resoundingly hit were the more than 700 new seedless Eureka lemon trees they had planted over 1.5 hectares just a few months before.

But there was a near-miss for their next tranche of plantings, also seedless Eureka.

"We'd taken a block that had only ever had cattle on it and prepared it, had the GPS (geographical positioning systems mapping) done and booked the planting for 21 February of this year," Tam explains.

"So when the cyclone came a week before, the young trees were safe, away from the flooding."

Tam says that, as part of an aspirational land-use management plan set up by the recently formed Te Arai catchment group, it is up to commercial forestry further up the river catchment to help prevent future slash inundation.

Tam is presently chair of the Te Arai Community Catchment Group, recently established to address the widespread damage to growers' properties caused by Cyclone Gabrielle. Tam is also deputy-chair of Rabobank's Lower North Island Client Council, and a Board member of Growing Future Farmers. This month she also joined the Citrus NZ Board.

In the meantime, she and Dan were determined to do what they could to protect the citrus and Rockit™ apples at their Mangapoike Horticulture Orchard.

And they thought new variety development manager, Matthew Carter at First Fresh might have the answer.

Also on both the board and the research committee for Citrus NZ, Matt had the year before been to a conference in Australia where he had seen early trialling of trellis systems for citrus.

"I wasn't sure how that would work in New Zealand but the concept was there, so I wrote about it for Citrus NZ's quarterly newsletter," he says. "Tam remembered reading that piece and called to say that could be just what they needed."

Tam and Dan are two of around 100 growers looked after by Gisborne-based marketers First Fresh, whose chief executive Ian Albers was also intrigued by the idea of trellis-growing for citrus.

"So we talked it over and looked around to see where the most advanced, most successful trials were taking place," says Ian.

> **"It is believed to be New Zealand's first greenfield commercial citrus planting on trellis**

"By May we had quickly pulled together a travel itinerary and the four of us headed to the United States."

It was no tourist jaunt … the quartet made a bee-line for San Joaquin Valley, a major food-growing region in California's vast Central Valley.

There they visited half-a-dozen trellis-growing orchards, ranging from fledgling trials to a near-decade-old operation.

"They were mainly working with dekopon (a variety of satsuma orange)

A towering trellis structure established on mounds elevates the young trees while facilitating drainage so they don't get wet feet

but we did see a few lemons and there were various techniques in terms of how the trellising was used," says Matt.

"Tam and Dan decided to take the best of what they had seen and carry out some additional research to come up with a method they believed would work in their own commercial setting."

By early September the towering trellis structure was installed and the young trees planted, each snuggled in a bed of strong wool sourced from the Jex-Blakes' sheep and beef station located further up the valley.

They also opted to plant on mounds, giving the new trees extra elevation to mitigate silt risk in the event of another major cyclone.

It is believed to be New Zealand's first greenfield commercial citrus planting on trellis, and for Tam – who does most of the day-to-day work in the orchard – the advantage was not just support and protection for their trees.

It would also open the canopies to more light, increase fruit production, promote ease of management and pave the way to robotic harvesting.

As a clincher, the system also supports intensification: the four-metre-wide rows allowing planting of 1675 plants per hectare … significantly more than the 606 currently recommended for seedless Eureka lemons.

"There are costs associated with licensed products like the seedless Eureka lemons (for which First Fresh holds the New Zealand marketing rights) and with the installation of infrastructure like trellising," Ian Albers says.

"But we believe the prospect of intensification, in addition to the creation of extra efficiencies, can offset that.

"We're always looking for new ways of doing things and that's why we've devoted so much energy to the idea at this very early stage."

As the lemons get established in the trellis system Matt Carter will do in-house monitoring for First Fresh, with the support of industry bodies like Citrus NZ, but for the Jex-Blakes there's nothing experimental about it.

"This is essentially a trial but we're not just saying 'we will make it work', we're also saying 'this is how we are going to do it in the future'," Tam says.

"The logic is compelling and we see trellis growing as being a potential game-changer for citrus in New Zealand." ●

NAVELS THE FOCUS OF AUSSIE TRELLIS TRIALS

The idea of growing citrus on trellis is not new in the Southern Hemisphere. The New South Wales Department of Primary Industries (DPI) has since 2021 been trialling three different systems.

Rather than using new plantings, however, the structures have been installed in blocks of 16-year-old Atwood and Hockney navels stumped to about 80 centimetres.

The blocks had produced good yields in the past, but at the time the trial started, the canopies were overcrowded and shaded, with yields dropping.

DPI citrus development officer Steven Falivene believed growing citrus on trellises could be the next revolutionary change for the industry, but there was no published data to realistically assess its viability in Australian conditions.

For the trial he is focusing on the applied aspects (pruning and harvest efficiency) and the budgeting (cost/benefit) aspects, while colleague Dr Mahmud Kare is looking at results including the relationship between light interception and distribution, canopy volume and yield.

The researchers expect to take five years until they have measurable results, and have citrus harvesting robots working.

The three methods being trialled are:

1. Espalier, where the trees are trained with a central single leader limb growing upright from the main trunk, and laterals bent and trained from the central leader horizontally along the wires.
2. Cordon, where multiple vertical limbs are trained and grown about 30cm apart from the first horizontal lateral on the first wire.
3. Palmate, where the branches are fanned out in all directions with some growing along the wire, and some crossing the wire diagonally. This training style is expected to fill the trellis quicker than other treatments.

RSE FEATURE

See our RSE Summer Special on pages 58-76

Orchard supervisor Lory Thompson has been at Dunstan Hills every season since 2007

Vanuatu footballer returns for 16th orchard season in Central Otago

On a summerfruit orchard in Earnscleugh in the middle of summer, you'll find some of the hardest working RSE (Recognised Seasonal Employer) Scheme workers around. That's because many are either current or former national Vanuatuan football players and are used to pushing themselves to succeed.

Aimee Wilson

Lory Thompson and Noellina Meltenoven have been coming to Dunstan Hills for many years to work under the RSE Scheme. They met playing football for their country when they were just 18 years old.

Lory first arrived in New Zealand in 2006 when the pilot scheme first started, and his wife joined him in 2014 once their four children were older. There are now five couples that come and work here every season.

Dunstan Hills is a 200ha orchard producing cherries, apricots, nectarines and peaches and Lory says the money here is good – at least five times what they could earn back home.

With the money from the scheme, the couple first bought a small house in Port Vila for themselves and their children.

After their second season, they were able to buy a piece of land so they could build a bigger house. It has a large outdoor area, three bedrooms, a bathroom, a nice living area, and fits all the kids and their family members who stay with them.

Dunstan Hills players in the Alexandra premier team. Photo credit Rebekah de Jong

They didn't need to borrow money for construction, and were able to pay the mortgage off – that would have taken years if they were just working at home.

Then the money was extended to pay for school fees, medicine, going to the hospital, clothes, bus fares and phones.

They are able to help their families in Vila and on Noellina's home islands, and have also managed to cover things like weddings, funerals, and even building materials for some of their cousins' homes.

"The only reason I keep coming back is because it's such a good company to work with," Lory says. "It helps us achieve our goals and plans a lot quicker."

He says that even after working for 25 years in Vanuatu, many families can't even afford a piece a land – with wages as low as $3 per hour.

When he first came to New Zealand, he found the conditions quite rough. That was at a different orchard. He wasn't even given blankets for sleeping and had to share a house with nine others. On some days if they worked later than the manager, the crew had to walk 15km just to get home.

Understanding the culture and language was also another barrier initially, and working out how to be able to communicate with bosses when things weren't going so well.

Lory was a strong advocate for fair pay, which ensured his crew were getting the same as backpackers and New Zealand workers – especially when he could clearly see that they were doing the work much quicker.

He moved to Dunstan Hills in his second season and hasn't looked back. Now responsible for organising the workers and making sure everything runs smoothly back at the accommodation lodge, his life in New Zealand is quite different.

Back home he helps to recruit the 30 workers that will come back with him to New Zealand to work each season, through his international football connections.

> **"Given how important these RSE staff are to us and appreciating what they are giving up to be over here, we feel any extras we can do for them is a small investment for Dunstan Hills**

Lory's wife was originally a bank supervisor in Vanuatu, and when she and the other wives arrive in December, many will work in the packhouse.

Noellina was asked to be a supervisor in the packhouse in her second season, and then moved onto completing a course in Quality Control for certification.

She has also trained other workers to be certified in quality control – including four women from New Zealand, as well as her sister who stayed for two seasons.

Lory Thompson and Noellina Meltenoven's house in Port Vila, Vanuatu

The orchard accommodation on Dunstan Hills is modern and has a large deck area with a barbecue, with separate self-contained units for couples.

Lory says they enjoy coming to New Zealand, and over time the local community has been very welcoming.

There is currently a waiting list of Ni-Vans wanting to come and work at Dunstan Hills and play football, and even a Facebook page about the Alexandra Football club.

"Football has definitely helped us get highly productive staff keen to return year on year," Dunstan Hills orchard manager Ian Nicholls says. Also a keen football player himself and a coach, he says the RSE crew are now very much a part of the culture at Dunstan Hills.

> **"The only reason I keep coming back is because it's such a good company to work with**

"It's no coincidence those who are actively playing sport are really good workers. They are fit, reliable, really engaged in working at Dunstan Hills and good for our community as well.

"If we are bringing out these high performing footballers then we have to give them time to play their sport. We prioritise giving them those opportunities to train and play as part of our pastoral care. That makes the relationship between the football club, the workers and Dunstan Hills work really well."

Dunstan Hills goes over and above to help the crews settle in when they arrive, dropping off meat to the staff kitchen every few weeks, and making them feel appreciated at Christmas with gifts and vouchers.

"Given how important these RSE staff are to us and appreciating what they are giving up to be over here, we feel any extras we can do for them is a small investment for Dunstan Hills."

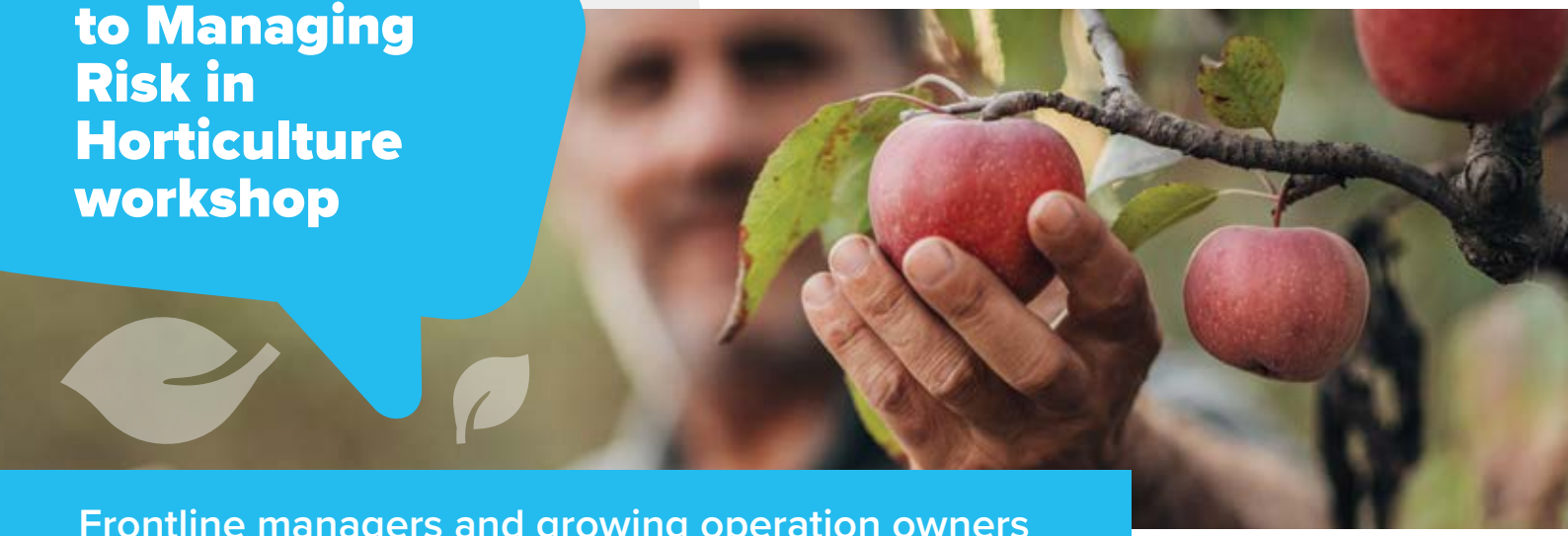
The first crew of older guys (former Vanuatuan football reps) arrive in early October, and the younger current Vanuatuan football representatives arrive in December to start picking. That's because they are still playing sport for their country right up until then and are not available.

Dunstan Hills runs its RSE programme through a combination of the local Seasonal Solutions co-operative and privately through the Vanuatu football initiative.

It's a win-win for everyone and has also ensured that the Ni-Vans have something to enjoy outside of their working life in New Zealand. ●

Introduction to Managing Risk in Horticulture workshop

Grow Home Safe



Frontline managers and growing operation owners register now for this health and safety workshop

Learn how to proactively identify and control risks. This workshop will focus on managing risks following severe weather events and related hazards.

Developed in response to research undertaken by the Grow Home Safe project, we have partnered with health and safety specialists at +IMPAC to provide horticultural training sessions to help reduce harm in the sector.

This workshop helps growers meet their legal duties under the Health and Safety at Work Act 2015, meet GAP requirements and provide useful tools and knowledge that can be utilised to create safe systems of work for their teams.

Workshop outcomes:

- Understand the legal requirements for risk assessment
- Define the key terms including hazard, harm, risk (including critical risks) and controls
- Explain the steps within the risk assessment process
- Apply three specific tools to identify hazards
- Get help with meeting GAP health and safety requirements
- Understand what a safe system of work is, and its importance.

Workshops are being held in weather affected regions in the North Island.

To find out more about this workshop including locations, dates and times go to **www.growhomesafe.co.nz**.
To register email **info@growhomesafe.co.nz**.
Through the support of the Ministry for Primary Industries (MPI) and its North Island Weather Events fund, tickets are at a subsidised cost of $75+GST per person. Each workshop is limited to 16 people (only one person per growing operation can attend).

Don't miss this invaluable opportunity to enhance your risk management skills and ensure the safety of you and your team.

Horticulture™ New Zealand Ahumāra Kai Aotearoa

Ministry for Primary Industries Manatū Ahu Matua

+IMPAC

FEATURE ARTICLE

Giuseppe Martelli of Gisborne's Taruheru Nursery

First Fresh chief executive Ian Albers

Seedless Eureka set to dominate lemon export space

A new variety of lemon that retains taste, tree vigour and good production while getting rid of those pesky seeds? "We're in!" said New Zealand citrus big-hitters, First Fresh. KRISTINE WALSH reports.

We are always going to be smaller, so we just have to be better … that's why Gisborne-based marketer First Fresh says it has a sharp eye on new varieties for the export market.

Company chief executive Ian Albers and new variety development manager Matthew Carter have driven the company's acquisition of the exclusive marketing rights to a seedless variety of the Eureka lemon they believe will soon dominate the export market.

"Being Southern Hemisphere producers New Zealand does have the advantage of being able to meet the market while Northern Hemisphere producers are out of season, but we're always going to be a long way away geographically, with proportionally lower volumes and higher production costs," says Ian, who also sits on the executive for Citrus NZ.

"If growers keep on top of those core values of producing good quality and good yield they are going to be a step ahead. That said, we still need to be open to new varieties that can offer good export potential."

That's why, he says, First Fresh is always on the look-out for new opportunities, nearly a decade ago spotting the new variety of Eureka seedless lemons that had been bred in Queensland and shipped across the Tasman by private Intellectual Property developer New Zealand Fruit Tree Company.

After diving deep into some homework, First Fresh secured the rights for New Zealand, and by 2019 had planted the first "little tranche" of trees, spread across three local orchards.

"We have a strategy of constantly looking at what is out there and what we can be doing better to meet and develop the market for our growers," says Ian Albers.

"New Zealand has had a unique advantage with our chemical free post-harvest processes, but others around the world are catching up on that so we need to be stronger in other areas, one being high-value niche varieties.

"The seedless Eureka lemon has already been commercialised in regions like South Africa, Australia and the United States, but we still have the advantage of our harvest schedule and that's where our strength will be.

"Just as importantly, we know we can grow great lemons so we're confident our growers will make this variety work, and work well."

The seedless lemon is pitched as having retained the sharp flavours, juicy fruit and productive habit of the original Eureka, but obviously without the seeds.

In Gisborne, the young trees are being developed by Taruheru Nursery, where owner Giuseppe Martelli oversees the grafting onto the most compatible rootstock including Benton citrange and Cox.

New Zealand commercial growers last year produced well over 6000 tonnes of lemons -- mostly of the Meyer and Yen Ben varieties – and of those more than 30 percent went offshore, a drop on previous years due to ongoing supply chain issues.

But lemons are still by far the biggest export product across all varieties of citrus and those volumes are expected to ramp up as logistics get easier and market access improves.

As the highest producing citrus growing region in the country Gisborne dominates the commercial lemon market, with close to 90 percent of the national crop.

"That doesn't mean all seedless Eureka has to be planted in Gisborne," Ian says. "But potential growers will need to supply through our marketing and export channels and supporting them is definitely something we are looking at."

And Ian Albers believes that, within that space, export volumes of the new seedless Eureka will soon outstrip traditional varieties.

Those early trees planted by First Fresh growers this year produced 500 kilograms of seedless lemons that were sent for evaluation to customers both in Japan and in the local market.

Having got the thumbs up, Ian Albers says they're on track to harvest four tonnes next year, enough to get commercial consignments offshore and to start presenting the fruit in the local market.

By the end of 2024 they anticipate having 14,500 trees in the ground – planted by 18 growers over 24 hectares – with an eventual production target of 1600 tonnes.

"That is fast approaching what New Zealand produces of Meyer and Yen Ben lemons combined, so it's going to have a meaningful impact on what we're exporting." he says.

"And given the advantages to both individual consumers and to the food service industry we're confident that, over time, seedless lemons will replace seeded options as the go-to choice."

Meanwhile, First Fresh is still keeping a sharp eye out for new opportunities and varieties, with pink variegated lemons, selections of grapefruit and blood oranges gradually making their way out of the nursery and into growers' orchards.

"It's what we do, and what we need to keep doing, to remain strong in a competitive export market," Ian Albers says.

"The key focus is on making sure a product is suitable for New Zealand conditions and identifying points of difference that consumers are going to be interested in. And we know that's what growers are going to get with the seedless lemons... after all, nobody likes pips in their gin and tonic."

He was funny, kind, thoughtful and had a big heart

Desmond and his first tractor

Legacy of a Central Otago orchardist

Desmond Paulin was one of the last orchardists to grow fruit in the Cromwell Gorge before the Clyde Dam was built in the late 1980s.

Desmond Millen Paulin 1925 – 2023

Died September 28, 2023 – aged 98

Aimee Wilson

His son Tim can still remember when the trains came from Dunedin to Clyde to pick up the fruit for the market.

Desmond lived a very full 98 years, celebrated by his six children, 19 grandchildren and 24 great-grandchildren at his funeral in Alexandra on 28 September.

Tim and Dennis are still both fruit growers, while Kenny still helps out. Kathleen and her husband, Bill Forrest, purchased her father's orchard on Strode Road in the 1980s, which they sold several years ago to retire after 34 years in the industry.

After leaving school at 14 (Desmond attended Kings High School in Dunedin), he initially went to work on other orchards before helping his father. He was also responsible for breaking new fruit-growing ground along Alexandra's Dunstan Road to prepare for the men who came home from the war.

Saving up enough money to go out on his own in his twenties, he started with just a small block and eventually built up his operation to around 20ha, including the lease on a block in the Cromwell Gorge – which had a successful crop of apricots.

Desmond and Kevin Jackson (now in Cromwell) were the last two growers relocated out of the gorge – which had a milder climate for successfully growing fruit, relatively frost-free.

Desmond grew Newcastle, Moorpark, Trevatt and Roxburgh Red varieties of apricots on that block, which were all late flowering and early fruiting due to the mild spring conditions.

In 1963, with an eye on quality, he continued his father's work producing quality fruit for domestic and export sales. Over time, he reduced the orchard back to a predominantly summerfruit operation.

Desmond feasting on cherries grown by his son Tim Paulin

Desmond (right) with brother Peter Paulin (left) and Murray Hiscock (centre) – all made life members of the Clyde Fruitgrowers Association in 2006

THE PAULIN FAMILY TREE

Noel Paulin + **Mary**

Desmond + **Gerald** + **Peter** + **Brian** + **Frank**

Kathleen + **Kenny** + **Dennis** (Dennys Orchard) + **Gaynor** + **Trish** + **Tim** (3 Kings Cherries)

Desmond was among the first to put copper spray on his trees and to use Hydraladas, and was always trying something new.

Still helping out on his children's orchards right up into his early 90s, Kathy says he never saw himself as old.

A true storyteller, he liked to recall the time one of his horses went to sleep with a cart full of fruit still attached to him, and the whole thing got twisted as it went down.

"A rep turned up, and the horse got sick of waiting, so it lay down. There was fruit everywhere," Tim says.

Never one to worry about the past, Desmond only cared about what was happening that day and truly lived in the now.

"He enjoyed life and was very social. And he was always giving fruit and vegetables to people," he says.

Kathy says her father was very practical. "It was a different era, and he was a true number 8 wire man who fixed everything. But it would always be just a 'make do' job."

At the funeral, Kenny recalled his love of horses. Everyone in the family had one and learned to ride and compete.

Des had a pacer and took horses around gymkhanas in Central Otago. "There was many a party at Strode Road," Kenny recalled.

Des was made a life member of several organisations, including the Clyde Fruitgrowers Association, Clyde Earnscleugh Rugby Football Club, Clyde Bowling Club, and Clyde Smallbore Rifle Club. He was a founding member of the Clyde Pony Club.

Des swore that bowls kept him going to the great old age that he was. "He's a fantastic role model to us all," Kenny said.

Dennis recalls always having to sit in the back of church "because we were always late." Later in life, that changed to always sitting closest to the aisle so that "if the devil comes, I need to be the first one out of here," he would say. His father "performed miracles every day" by just making people laugh.

His involvement with the pony club was massive – attending and organising shows and one-day events, "he had a real affinity with animals, Dad was a real character, and this is the end of an era," Dennis said.

Gaynor and Trish said there was always laughter when Des was around, "and he was quick-witted right to the end." They remember being taught how to grow the perfect vegetables, and he always had time to chat – except when he was playing bowls, watching the rugby, or with horses.

"He always woke up in a good mood and was whistling." There were many great attributes he had that can be seen in his family.

At the funeral the stories about Desmond continued through to his grandchildren. Julie Flannery his eldest grandchild spoke about some of the hard case things that he did. When he lost his license in his early 1990s due to a heart condition, he used his ride-on lawn mower to drive to the Clyde Four Square rather than his mobility scooter – refusing to give in to old age.

"He was funny, kind, thoughtful and had a big heart – all great attributes for a grandad, a great grandad and a good person. Knowing and having a grandad well into adulthood and calling him my friend is a privilege," Julie said.

His youngest grandson Reef (6) said he wished he lived to 100.

"We had a wonderful life with him, with some ups and downs, and we were privileged to have him for so long," Kathy said.

TECHNICAL

THE LATEST INNOVATIONS AND IMPROVEMENTS

Alec Mackay from AgResearch measuring sediment depth in a sweetcorn block

Building soils back better

Following the aftermath of Cyclone Gabrielle and the scale of damage to horticultural and arable crops and businesses across Northland, Hawke's Bay, Wairoa, and Tairāwhiti, it was apparent that there were knowledge gaps amongst the sector around just how to respond to the extended wetness, and variety and depths of silt that had been deposited on this highly productive land.

Sally Anderson : Market Access Solutionz Ltd scientific services manager
and Vegetable Research & Innovation Board co-ordinator
Alex Dickson : LandWISE project manager, sustainable systems

A broad spectrum of questions were raised by growers having to deal with the after-effects of the flooding and the deposited silt; 'do I leave it?'; 'what about working it back in?', 'should I dig it up and remove it?' All valid questions, but there were no easy answers.

There is little or no documented information on best management of sediment impacted sites with high value crops on elite soils. Previous studies have been completed and relate to 1950s research following the 1948 Gisborne floods, then in the 1990s after Cyclone Bola; and studies that followed the 2004 southern North Island major storm event. These focused almost exclusively on re-grassing eroded paddocks, or paddocks with sediment deposition. While these studies provided some insights on the effects of flooding and silt deposition, the information was not targeted towards highly productive land, producing high-value horticultural crops including apples, grapes and kiwifruit, arable, seeds and vegetables, in addition to integrated livestock.

With financial support from the Ministry for Primary Industries (MPI), a group of organisations came together to capture baseline data on the initial impact on growers and their productive land, and to document the lessons that could be learnt in how to recover from a natural disaster to build future resilience to these extreme weather events. The group included LandWISE, AgResearch, Massey University, Hawke's Bay Regional Council, Gisborne District Council, Plant & Food Research, Vegetable Research & Innovation Board, the Foundation for Arable Research, and Vegetables NZ, alongside the MPI and several of the national producer

Example of a Visual Soil Assessment in sediment

Devastated block of sweetcorn where the sediment depth is greater than 20cm

The project has involved nearly 70 growers from across the impacted areas

groups including NZ Apples and Pears, Summerfruit NZ, Citrus NZ, Northland Kūmara Growers, Onions NZ and NZ Buttercup Squash Council.

The sampling took place as soon as possible to build a baseline picture immediately following the cyclone, and before any significant remediation was carried out. Samples were collected from the four most impacted areas; Hawke's Bay, Tairāwhiti, Wairoa, and Northland, in the first one to three months after the cyclone. Sampling in some areas was delayed due to poor access, or blocks remaining under water for an extended period. The focus of the sampling was on cropping land, orchards and vineyards, which were the land use types most significantly impacted by sediment deposits.

At the end of August 2023, laboratory analyses of 155 sediment and soil samples from 116 sites were completed as part of the initial baseline testing. The project has involved nearly 70 growers from across the impacted areas. This sampling represents a massive amount of work carried out by many people and organisations under quite difficult conditions. Alex Dickson and Dan Bloomer from LandWISE based in Hastings, have played a key role in the sampling effort, and compiling the data collected from all the groups contributing to the project.

"Seeing the damage first-hand and travelling around the region to visit and talk to growers drives home to me just how important it is to be able to provide growers with sound advice to deal with silt and wet soils," Alex says.

"The sampling that has been completed starts to build that picture, and by continuing to collect samples through this season and beyond, we will be able to measure and monitor how well soils recover and how crops respond."

At a high level, the impact of the cyclone on highly productive land was divided into three main categories:
(i) soil eroded and stripped leaving subsoils exposed
(ii) soil impacted by sediment
(iii) areas inundated with water for an extended period.

The focus of the sampling has been to determine physical, chemical and biological characteristics of soil and new deposits. Samples have been collected across cropping land and orchards where areas have experienced floodwater inundation, silt accumulation, topsoil removal and sediment deposit. Eight key characteristics were captured across all sites, including sediment depth and texture, nutrient status, visual soil assessment, bulk density, earthworm abundance and diversity, eDNA, and contaminant (*E. coli*) levels (on selected Hawke's Bay sites). All sample locations were GPS (geographical positioning systems) located for integration into GIS (Geographic Information Systems) to enable understanding of wider catchment effects.

The approach in each region was to look at a catchment level, with grower sites located for sampling within each catchment. Alongside the sampling, a site survey captured information about flooding and land management. Along the way, results have been shared with the individual growers involved.

A report on this sampling has just been released. While the biggest impact of the cyclone on Hawke's Bay and Tairāwhiti has been sediment deposition, extended waterlogging preventing sowing and harvesting has been the main challenge in Northland.

In the Hawke's Bay and Tairāwhiti:

- sediment deposition varied in depth from < 5 cm to > 100 cm
- soil texture was characterised as sand to silty clay loam
- volumetric moisture content (10 – 80%)
- bulk density (0.75 – 1.65 g cm^{-3})
- nutrient fertility including pH (5.5 – 8.5)
- Olsen P (2 – 30 µg ml^{-1})
- exchangeable potassium (2 – 16 MAF units)
- sulphate sulphur (2 – > 200 mg/kg)
- biology (12 – 70 earthworms m^{-2}).

The physical condition of the sediment as assessed using the Visual Soil Assessment methodology varied from poor to moderate. The pH (acidity/alkalinity) of most sediment samples was elevated above the optimum range for plant growth. This has been raised as an area of concern for nutrient availability in some crops.

Alongside the sampling, the actions growers had taken or were intending to take were documented. Where there was a significant amount of sediment (5 – 20 cm or more), actions taken by cropping farmers varied from leaving sediment bare until the spring, sowing a cover crop, through to mixing 5 – 20 cm of sediment into the soil. Some vegetable growers had mixed and or had removed 20+ cm of sediment from fields. Orchardists had removed up to 50 cm of sediment from within the tree rows.

The work done through this project has provided the first documented records of site impacts, sediments and grower actions immediately following a major storm event on high value crops on elite soils. This baseline study is just the beginning of a planned longitudinal programme that will continue monitoring to collect information about the changes in soil and sediment as growers apply management actions, replant crops and reinvigorate orchards. The aim is to develop information and decision support tools that cover all horticultural and arable land uses so that all growers are empowered to make the best decisions in the face of future extreme weather.

This work was only possible due to the outstanding level of collaboration and support received. The project has been well supported technically by AgResearch, Massey University, and Plant & Food Research, Gisborne District Council and Northland kūmara growers. Funding was received from MPI via Vegetables NZ.

Strong El Niño for summer

Georgina Griffiths : Meteorologist, MetService

Strong El Niño in place

All eyes are on the tropics, and the strong El Niño event that is unfolding there. Sea surface temperatures along the equator are now over 3°C above average in the eastern Pacific, and over 1.5°C above average in the central Pacific (Figure 1). The magnitude of the El Niño 'warm tongue' now meets the thresholds to classify this event as a **strong El Niño**.

A 'cold horseshoe' either side of the equator is starting to develop (Figure 1). Sea surface temperatures are now sitting slightly below average in the Coral Sea and north Tasman Sea. This will be an important factor for weather systems forming to the north of New Zealand during summer. Warmer seas can add fuel to weather systems – so with the marine heatwave now gone from around the New Zealand coastline, weather systems this summer should (mostly) lack the energy or 'punch' that was seen last summer.

Note than even in an El Niño summer, MetService forecasters still expect the 'standard' risk of one Tropical Cyclone within 500 km of New Zealand, and still expect thunderstorms, downpours and heavy rainfall that causes flooding. However, the risk of all these things across the northern half of the North Island is **reduced** compared to last summer.

This will be of considerable comfort to communities in the upper North Island that were badly affected by record-breaking rainfall in summer 2023.

The majority of climate models predict that this El Niño will continue to strengthen between now and Christmas – this is its typical life cycle – and some of the climate models forecast that this El Niño will become an **intense** climate driver in the tropics.

Looking at previous El Niño events since 1990, the intense El Niño events of 1997–98 and 2015–16 stand out clearly. However, each El Niño is different in how it plays out here in New Zealand. The 1997–98 El Niño produced severe droughts in eastern regions, while the 2015–16 was much wetter (Figure 2). This variation from one El Niño to another occurs because El Niño does not operate in isolation. Other climate drivers, such as the Southern Ocean, can reinforce or limit El Niño effects.

Get some good advice!

While MetService meteorologists have their eyes firmly glued to the El Niño event in the tropics, we are also keeping an eye on our active (stormy) Southern Ocean. This is expected to remain a major player for us for the remainder of spring and through summer, adding in volatile westerlies across the South Island. The bottom line is that MetService is forecasting much, much stronger than usual westerly winds across the country this summer, due to a combination of **both** El Niño and a stormy Southern Ocean.

The long-range rainfall forecasts are therefore fairly complex for the upcoming summer, with the El Niño signal for below normal rainfall in eastern areas battling against an unsettled and wetter signal across much of the South Island.

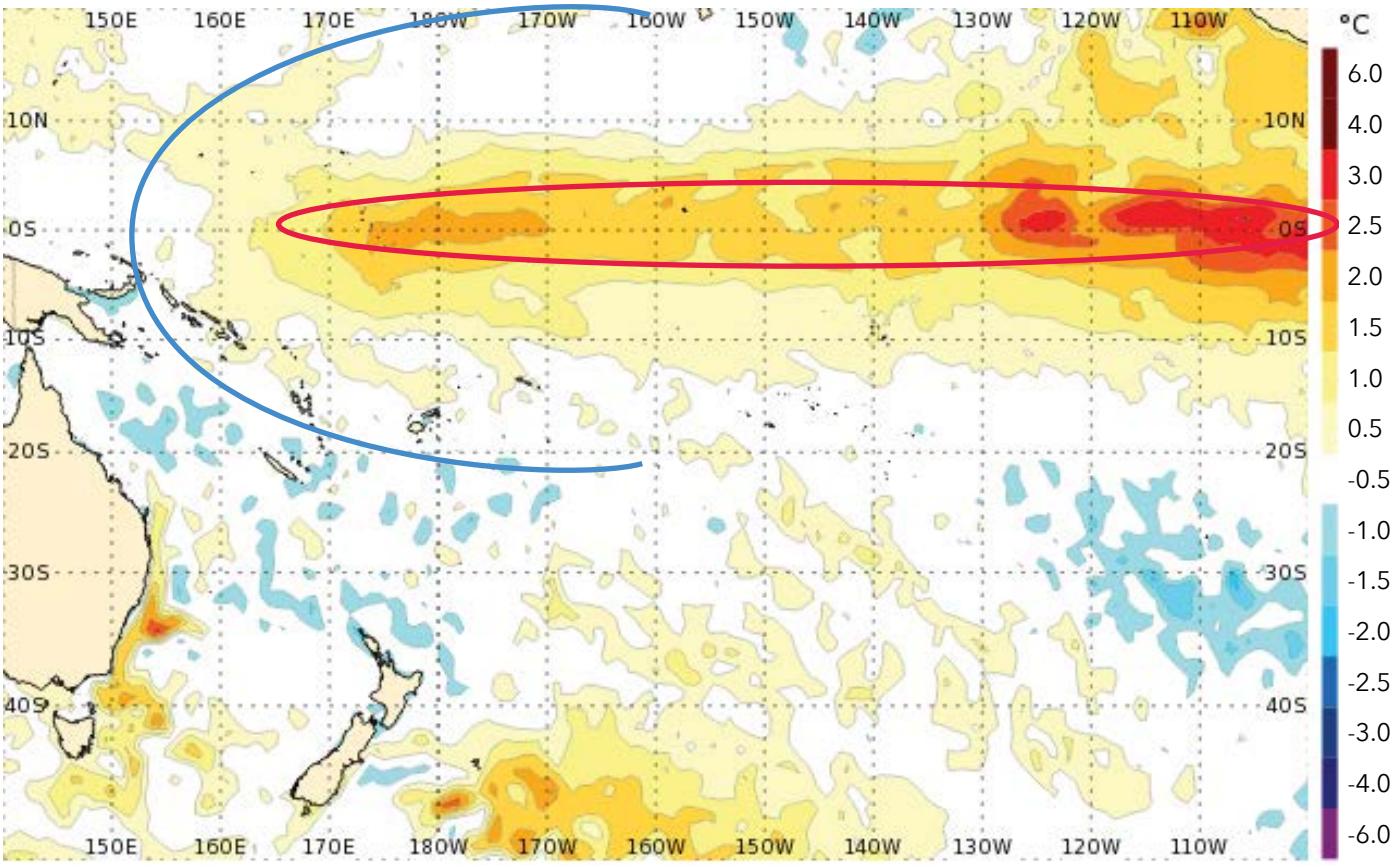
> **"The bottom line is that MetService is forecasting much, much stronger than usual westerly winds across the country this summer**

Another complicating factor is that even if eastern areas of the country do see some decent summer rainfall at times, the predicted extreme heat, and the drying effect of intense westerly winds are likely to strip out soil moisture very quickly.

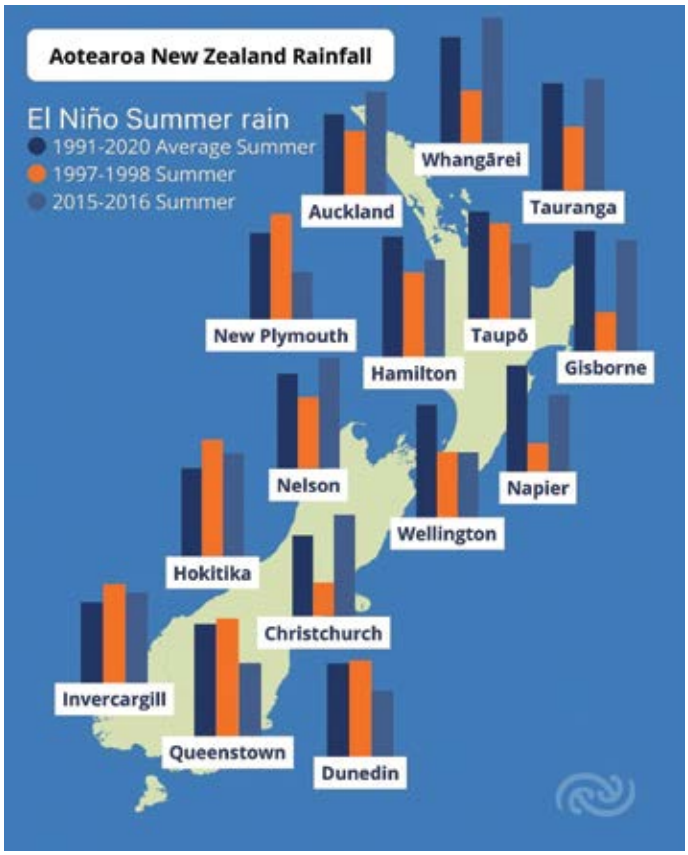
This is one year where getting reliable long-range forecasts is going to matter.

You can contact MetService long range forecasters via **NZSales@metservice.com**

Sea surface temperature anomaly (deg C): Daily analysis for Mon 9 Oct 2023



*(c) Copyright Australian Bureau of Meteorology | **GAMSSA** | Climatology 1961-1990*



Above – Figure 1: *A snapshot of global sea surface temperature (SST) anomalies on 9 October 2023. Data courtesy of the Bureau of Meteorology. Above average sea surface temperatures are shown in red colours, below average sea surface temperatures in blue colours. The El Niño 'warm tongue' along the equator is circled in red – this is the typical El Niño ocean response. A 'cold horseshoe' (shown with the blue line) is starting to develop in the ocean either side of the equator.*

Left – Figure 2: *A comparison of summer rainfall (December – February) for the 1997–98 El Niño, versus the summer rainfall for the 2015–16 El Niño.*

High colour Envy apple

Fruit colour is key

The perfect-coloured peach, the reddest apple, the banana with the correct balance of yellow to green... fruit colour is critical to consumer choice.

Sarah de Bruin : AgFirst Consultants Hawke's Bay

At the time of purchase, consumer selection is largely driven by the visual cues of external appearance and fruit finish. Colour influences consumer preferences and perceived sensory attributes prior to consumption. Thus, it is important growers produce fruit that aligns with consumer demanded colour parameters, while also maximising crop yields at the orchard gate. Colour restrictions on harvest parameters, colour-based grade standards at the packhouse, and payment premiums, all mean that colour enhancement is a key attribute growers focus on in the lead up to, and over harvest.

There are three main chemicals which influence the colour of fruit skin: chlorophyll, carotenoids, and anthocyanins. The relative concentrations of these pigments in the fruit cells, coupled with the environmental conditions the developing fruit is exposed to, alters the external attributes of the fruit, influencing fruit finish. The composition and concentration of these three chemicals also play an important role in the photosynthesis process within the plant during the growing season.

Chlorophyll is a green pigment housed in chloroplast organelles in plant cells. This pigment enables plants to absorb sunlight, therefore driving plant photosynthesis. In immature fruit cells, chlorophyll pigments are highly concentrated, hence the green appearance shown in the fruitlet as it develops. Then, as the fruit ripens, the chlorophyll in the cells starts to degrade, and the chloroplast organelles convert into chromoplasts. Consequently, as the chlorophyll concentration starts to dilute, the fruit undergoes a colour change from green to yellows, oranges, and reds.

Carotenoids are a group of pigments which include carotene, lycopene and lutein. These pigments appear as yellow, orange and red. Concentrations will be at their highest following chlorophyll degradation and colours intensified by carotenoid synthesis.

Anthocyanins are responsible for the blue, red, and purple pigments. As the ripening process occurs in some fruits, anthocyanin biosynthesis takes place. This process follows chlorophyll and carotenoid degradation. For some fruits, direct light is needed for anthocyanin synthesis to occur. For example, peaches and apples require light to undergo anthocyanin biosynthesis, however cherries do not.

> **"...light, temperature, nutrient availability, wounding, and water stress affect the accumulation of pigments**

Pigment concentration and therefore colour changes of fruit skin is a tightly controlled genetically determined biosynthesis pathway,[1] however environmental factors play an important role in fruit colour development. The key environmental factors are predominantly light, but also temperature, nutrient availability, wounding, and water stress affect the accumulation of pigments.[2] Thus orchard management techniques are important to optimise the growing environment and achieve the highest possible fruit colour finish.

A range of crop husbandry tools can be utilised to manipulate the colour of the crop, by altering the growing environment and therefore the pigment concentrations. Examples of this can include:

- Adapting light distribution within the fruiting canopy
- Summer pruning
- Thinning and crop load management
- Leaf health
- Nutrient balance
- Colour enhancement tools
- Overhead netting (can reduce light)

Temperature is a major determining factor for the rate of the biosynthesis, accumulation and the degradation processes of pigments, altering the speed at which skin colour changes. Particularly before pipfruit harvest, sunny days and cool nights allows colour to 'pop' by stimulating red colour development through synthesis of anthocyanins and carotenoids. This is a result of high daytime temperatures and low nighttime temperatures promoting an accumulation of carbohydrates, followed by slower respiration and therefore carbohydrate conservation. However, temperatures that are too high can result in over coloured fruit and a decline in skin anthocyanin content, and in temperatures above 30°C sunburn injuries can occur.

Light environment aspects including duration, intensity, distribution and quality which all affect the different regulatory processes within the plant, including fruit colour development. Thus, maximising light interception is vital. The location of the fruit in the canopy and therefore its exposure to light environments and interception capacity can affect the skin colour intensity.

In the article "**How to improve fruit quality from here until harvest**", published in *The Orchardist* last season, Jack Wilson described the way light interception and distribution can vary from the top to the bottom of the tree. Here he outlined light interception targets of 65 percent available light, with 15–30 percent light distribution in the lower canopy.

In order to achieve this ideal light environment, canopies should be set up with low vigour, uncomplicated branches which allow for transient dappled light to penetrate. Summer and winter pruning, crop loading and fruit distribution are key factors essential to achieving optimal light. The tree must have balanced vigour to prevent shading and a poor light environment. The fruit to leaf ratio must also be correct to ensure sufficient supply of sugars at the correct quantities required for pigment synthesis.

The biosynthesis process within the tree is supported by plant nutrient supply. Nutrient availability should be within the ideal ranges to allow for optimal plant uptake. Nitrogen levels influence fruit colour, with high nitrogen reducing fruit reddening, and a nitrogen deficiency favouring colour enhancement. This colour response to nitrogen levels may be the result of a delay in fruit ripening and therefore a delay in chlorophyll degradation. It may also be due to a vegetative response within the plant, therefore inducing shading.

1. Kapoor, L., et al. (2022). Fruit ripening: dynamics and integrated analysis of carotenoids and anthocyanins.
2. Lin-Wang, K., et al. (2011). High temperature reduces apple fruit colour via modulation of the anthocyanin regulatory complex.

Immature pipfruit fruitlets, showing chlorophyll degradation and anthocyanin accumulat

Leaf defoliation on Ambrosia apples

A range of colour enhancement tools are available for growers who want to maximise colour further, especially in those varieties where a high-grade colour premium may be available. In pipfruit orchards, reflective cloth, leaf blowing, leaf plucking and chemistry options can all be used to further manipulate the light environment and therefore enhance fruit colour prior to harvest.

> **Growers should therefore aim to grow fruit in a calm canopy, managing crop load and vigour to allow for optimal light capture**

Reflective cloth creates a reflection of light from the orchard floor back up into the canopy. This then utilises the light which would otherwise be lost to the grass sward and enables light capture in the bottom tier of the canopy. Following Cyclone Gabrielle, some pipfruit growers have been looking for alternatives to reflective cloth being laid down orchard rows. A range of options, yet to be proven at a commercial scale, includes straw, lime, and biodegradable white paint. Trials have shown straw to be comparable with reflective cloth for light reflection, however it breaks down faster, suggesting repeated applications may be necessary to maintain a higher reflectivity.[3] This will be an interesting area of innovation to keep an eye on.

Leaf defoliators or manual leaf plucking is another strategy some growers have been using to improve colour outcomes. This technique suddenly exposes the fruit to the sun through removal of leaves prior to harvest, with the aim of enhancing red colour development, overall crop recovery and enabling more fruit to be harvested in the first and second harvest picks.

Chemistries such as ethephon promote colouring through creating an ethylene response within the plant and stimulating pigment accumulation.

Fruit colour is an important quality attribute of many fruits and is a key driver to consumer selection at time of purchase. Although genetically determined, environmental factors play an important role in colour intensity and rate of change within the fruit. This means that growers need to ensure their growing practices maximise the environmental factors conducive to colour development to optimise on fruit harvested and pack-out results, as well as capitalising on any high colour grade premiums which may be on offer. Growers should therefore aim to grow fruit in a calm canopy, managing crop load and vigour to allow for optimal light capture. For those varieties which pay a premium for higher colour outcomes, utilising colour enhancement tools can add further value to fruit. ●

3. Blanke, M.M. (2008). Alternatives to reflective mulch cloth (Extenday™) for apple under hail net?

High specification tree support in a young 2D orchard

Next generation apple growing systems

The evolution of apple growing systems is a fascinating and mission critical subject. In this article I would like to review recent industry activity on the subject and consider what has changed and how we might respond.

Jack Hughes : Fruition horticultural consultant

Recent history

Up until recently the industry enjoyed a great run of good market returns, benign growing seasons and relatively stable production costs. This arguably fuelled a 'maximise yield at any cost' mentality towards growing systems design. With this backdrop we have seen the introduction of capital and labour-intensive growing systems like FOPs, 2D and V trellis.

The last couple of seasons brought an unwelcome change in all the big factors. Lower market returns, climatically awful growing seasons and near rampant cost inflation over all areas of production. The labour component has deteriorated sharply from the production perspective with greatly increased cost, reduced availability and lower skill levels.

Taking stock

Market returns will always be cyclic, but significant cost deflation seems unlikely. In other words, it's probable that this tough environment is largely here to stay. So how to respond in the way we grow apples, and what really matters?

I think it's all about two big factors and how they come together – orchard economics and tree physiology.

Orchard economics

Producing large yields of high-quality fruit at least cost is what makes the economics of fruit growing work. Internal Rate of Return (IRR) is the analytical method that weighs up all the factors involved. This equation takes into account the

Bamboo support for every scaffold branch in this FOPs orchard

time value of money. Money spent early in the life of the orchard on development and training has a large influence on profitability because of the 'cost of funds'. The greater the set-up cost of materials and labour, the longer the payback. Or to put it more bluntly, unless growing systems which have higher upfront development costs produce sufficient extra marketable yield, we're worse off.

Tree physiology

The prime objective is rapid development of a full and efficient canopy. This ideally means using tree forms that require minimal pruning in their early years so that the rate of fruitful canopy development is maximised. The more young tree pruning a growing system requires, the greater the delay in canopy development and fruit bud formation.

While young tree vigour is required to quickly grow and fill the canopy, we also want trees to smoothly transition into a settled balance as the available space is filled. Correct matching of variety, rootstock and tree spacing to orchard site is required to achieve this. These are critical 'one time' decisions.

So let's look at the input cost side of growing systems. Imagine the accountant and banker are listening in. Let's even question some of the assumptions that have crept in during earlier more profitable times.

Trees

Tree cost and tree density are obvious factors. However, nurseries face the same cost inflation pressures as all businesses, so we are not going to wade into the tree cost debate here except to highlight that sourcing high-quality trees at the best price is important for the success of any orchard system. Tree density on the other hand is a big variable. Small differences in tree spacing make large differences in tree density and therefore establishment costs.

Sure, the rate of yield accumulation is largely a function of tree density in the early years of the orchard. In practice though, the cost of extra trees must be paid off with extra yield mostly in years 3 and 4. After that, provided trees are growing well and filling canopy properly, high tree densities may not add any extra benefit to the bottom line.

High tree densities can also lead to canopy shade and fruit quality problems if vigour is excessive once the trees have filled their space. The low tree density design (~1,800 trees/ha) and higher shoot/root ratio of FOPs plantings achieves this and favours a more settled or balanced canopy rather than higher density blocks.

Tree support

Tree support is another major infrastructure cost. Clonal rootstocks are not self-supporting and there can be no compromise on sturdy and well-engineered structures. There are many painful lessons that reinforce that message. Design should also allow for optional hail net addition at a later stage. Yet, a cost/benefit question remains – to what maximum height do trees need to be supported? Or put another way, how far above the top wire can we expect trees to be self-supporting?

On the cost front, the price of tree support rises sharply with extra post height. Table 1 shows the relative cost of

Mature hedged Johnny Appleseed orchard

support to increasing tree heights using a bundle price for No.1 Rounds. Posts get more expensive with increasing length in both their unit ($/metre) and total price ($/length). This ramps up considerably with each extra 60cm of support height. Three-metre posts that are 80cm in the ground provide support to 2.2m. This is 30 percent more than 2.4-metre posts supporting to 1.6m. Posts 2.4 metres long will be too short for most of us, but they do provide a baseline for comparison.

Table 1. Relative cost of tree support to increasing heights

No.1 Round (m)	Bundle Price (excl GST)	Supported height (m)	% cost increase (>2.4m posts)	% cost increase (>3.0m posts)
2.4	28	1.6		
3.0	36	2.2	30%	
3.6	49	2.8	76%	36%
4.2	68	3.4	144%	88%

Increasing support height from 2.2m to 2.8m increases cost by 36 percent. It's safe to assume that wire and labour cost increase at least proportionally. The next 60cm increment to 3.4m almost doubles the cost (+88 percent) compared with 2.2m. The question is, does tree support above 2.2m pass the cost/benefit test?

Arguably trees will happily grow unsupported for a metre beyond the top wire, and there should be enough vigour and crop management for this to happen. (Spoiler alert – mechanical hedging will keep them straight anyway).

Tree training

The labour cost to set up the new formal canopies of systems like FOPs, 2D and V trellis are a significant, if less visible and openly discussed component of their orchard establishment cost.

It is accepted that some level of tree training is essential for any system. Leader dominance must be maintained to achieve a balanced canopy. Branch vigour, precocity and longevity is improved with flatter angles, so some initial branch training is often justified. Repeat passes during the growing season are required to usefully and efficiently direct growth for any system. Training usually beats pruning for young trees because making branches good by tying down contributes to yield accumulation faster than the alternative of pruning them out and regrowing them.

But where to stop? Converting a nursery rod from a single to a twin leader interrupts canopy and fruiting development and requires follow-up remedial steps. Nevertheless, this simple conversion may well be worth it to create a more desirable tree form.

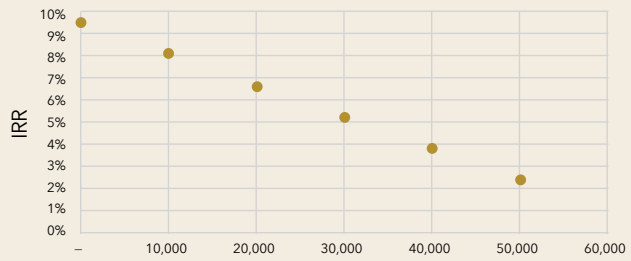
Making massive changes to natural tree form is a much bigger commitment of time and effort, with the gains getting harder to justify at today's labour costs.

Whether it be selecting and supporting 8+ vertical scaffolds per tree for FOPs or training naturally upright new wood to horizontal for 2D and V trellis, there's a big labour cost to be funded and a big downside to orchard performance if these tasks are not accurately executed and appropriately timed.

Financial risk also needs to be confronted. The greater the set-up cost, the greater the financial burden and payback risk, which will bite harder if things don't go to plan. This factor is hard to quantify, but real all the same.

Orchard development models can be used to test the effect of different levels of development cost on Internal Rate of Return. What happens to the level of orchard profitability if more money is spent on set-up cost without any gain in yield performance? The following example uses a base case of a tree density of 1,905 trees/ha supported with 3.0m posts giving a total orchard development cost of $208k/ha. IRR declines linearly at 1.4 percent with each additional $10k increment (<5% of total development cost) in orchard development expenditure on any input like trees, support structures or tree training labour (Figure 1). The more we spend on set-up, the more marginal the economic viability.

Figure 1. Effect of additional development expenditure on the IRR of a new apple planting



Make it easy to do things well

A successful growing system must make it easy to do things well in the context of high labour costs and the shortage of skilled people. Mechanical hedging achieves that and is a useful component of the next generation of growing systems. Johnny Appleseed has led the charge with the adaptation and development of hedging techniques from Europe over the last decade in Hawke's Bay.

They have shown how hedging opens the door to new and better ways of canopy management. Traditionally we prune in winter because that's when the most time is available. However, dormant pruning is invigorating, with often undesirable vegetative growth responses. Summer hedging on the other hand, maintains open canopies with little vegetative response and promotes fruit bud formation.

A hedgerow canopy lends itself to mobile platforms, which take ladder climbing away and allow people to save energy and focus on the job in hand. Hedging does not replace pruning, but it does the lion's share inexpensively. There is still a need for manual pruning between trees and for qualitative detail. Current contractor hedging rates are typically in the $600-800/ha range including mulching.

A good pruning job rather than just a cheap job is required for all orchard systems for best results. Equally crop load adjustment (thinning) needs to be matched to the specific requirements of variety and tree age. Platforms are proving themselves as cost and effort reducing aids to pruning, thinning and tree training. The jury is still out on the merits of platform-based picking systems compared with conventional contract picking on ladders.

> "we can fine-tune the benchmarks that deliver required fruit colour and internal quality

To summarise

There is a case for reviewing the design of our growing systems with a view to reducing set-up and operating costs without compromising fruit yield, quality or value. We might:

- Reduce tree density from the region of 2,400 per hectare into the 1,600 – 2,000 tree/ha range without affecting the rate or maximum level of yield accumulation.
- Reduce the height (to 2.2m?) and therefore the cost of tree support without affecting tree stability or the risk of fruit defects.
- Reassess the merits of easily developed free form branched trees, whether they be one vertical stem or two.
- Assess the merits of summer trimming that creates settled canopies and platform ready orchards.
- Review row widths and canopy profiles for better ergonomics and increased canopy volumes and fruit bearing capacity.

Raising the bar with Precision Hort

The opportunity to utilise the insights of precision horticulture to optimise crop and canopy development is compelling. With scanning technology we can now integrate leaf area (using LiDAR – Light Detection and Ranging) with bud and fruitlet counts (using cameras) to give us the ultimate measure of crop load – leaf area to fruit ratios. Refining these relationships for different varieties will help us optimise the rates of canopy fill and high value yield accumulation.

With the ability to measure other aspects of canopy geometry like canopy density, (i.e. objective measures of vigour, light and shade) we can fine-tune the benchmarks that deliver required fruit colour and internal quality, and regulate management inputs to achieve them. Uniform hedgerows also lend themselves to precise spray calibration for effective pest and disease control, while minimising the risk of fruit russet from over-spraying.

Lots of ways to raise the bar to higher levels and (excuse the mixed metaphors) drop more to the bottom line.

Strengthen plants naturally with biologicals!

Megafol® is widely recognised throughout New Zealand's horticultural industry as one of the leading solutions for combatting environmental stress across a wide range of crops.

With irregular and unpredictable weather events causing high stress levels for growers and their crops – biostimulants such as Megafol can be utilised to help level out the effects of the weather extremities, such as high and low temperatures and extreme wet and dry conditions that we are seeing. Whilst Megafol has been in the market for some time and is tried and tested, Valagro's ongoing research and development and implementation of new technologies allow for a deeper understanding of how the product works within the plant to improve product efficacy.

Megafol aids in plant response to environmental stress by upregulating genes related to abiotic stress factors. Applying before a stress event, if possible, will help the plant prepare for the stress event, whereas applying after stress events will significantly improve plant recovery. It is also a growth stimulant, boosting growth in good conditions, and maintaining growth in the presence of stress.

Megafol has a natural carrier action, making it ideal to apply alongside other foliar nutrition products, and is compatible with most common Ag Chem.*

When considering biostimulant use in New Zealand, it is important that growers look for products which have been comprehensively tested and validated through rigorous science.

Megafol is produced by leading Italian biostimulant company Valagro, founded 40 years ago, and now owned by Syngenta Biologicals. The product has been formulated to initiate and strengthen plant responses to, and recovery from, environmental stress factors such as cold and flooding, heat and drought, wind damage, wounding and salinity stress.

The science behind the Valagro range and Megafol in particular, has allowed us to distinguish the effects of the products on plants, ensuring excellent efficacy in the field. Valagro uses a range of advanced scientific methods to formulate and develop products that have a specific target and result.

Genomic science allows Valagro to uncover evidence of Megafol's ability to stimulate stress response genes within plants and uses phenomic technology to analyse plant response to stress events when treated with Megafol.

New metabolomic studies have uncovered that Megafol elevates the activity of the anti-stress genes within the plant, reducing the level of metabolites produced by the plant when under stress. Metabolites are the biomolecules that are produced by the plant at a cellular level, in response to certain stress conditions. The ability to reduce the levels of metabolites demonstrates Megafol's ability to improve the tolerance and response of plants to environmental stress.

Incorporating applications of Megafol into early seasonal crop management programmes is a good way to mitigate the adverse effects that may occur throughout a season, helping to manage crop health and production in a sustainable manner.

**Always refer to the label.*
Always check compatibility with your local Valagro Representative.
Do not apply with Copper or Oils.

agritrade® Valagro Where science serves nature

FrostBoss unveils state-of-the-art blade factory, expanding global reach

FrostBoss®, formerly known as New Zealand Frost Fans, has achieved a significant milestone in its quest to service the global frost fan market.

On 26 September 2023, the company inaugurated its blade manufacturing facility. With the capacity to manufacture three times its previous output, FrostBoss is poised to meet the surging worldwide demand for frost fan blades, solidifying its position as a premier frost fan manufacturer.

For nearly three decades, FrostBoss, headquartered in Hawke's Bay, New Zealand, has been a trusted name in the industry. Known for producing efficient and quiet FrostBoss fans, the company exports to six continents.

New Global Identity

Coinciding with this expansion is the unveiling of FrostBoss's refreshed brand identity. As Andrew Priest, chief executive of FrostBoss, explains, "we are launching a refreshed FrostBoss brand, elevating it to be our global trading name." By adopting FrostBoss as their global master brand, the company aims to eliminate confusion around their brand architecture and position itself more effectively in growth markets beyond Australasia.

Global Reach

FrostBoss has established itself as a global leader in frost fan manufacturing and exporting. "As well as manufacturing blades and assembling machines in Hawke's Bay," Andrew says, "we have installation and service teams throughout Australia and New Zealand. The company's commitment to international growth is also evident with the opening of a European office.

Innovative Automation

This expansion integrates automation technology, supplied by the Italian company Roboticom, which has revolutionised labour-intensive tasks, improving product consistency and enhancing health and safety standards.

Guardians of Crops

In an era of climate change and unpredictable weather, FrostBoss machines have proven their worth for high-value crops affected by frosts. "Our products are now in a dozen countries and counting, protecting crops, from wine and table grapes to nuts, citrus, stonefruit, pipfruit, berries, kiwifruit, avocados, mangoes, even instant lawn," Andrew says.

FrostBoss CEO, Andrew Priest, welcomes guests to opening

Innovations for Sensitivity

FrostBoss has recently introduced a lay-down tower, tailored for areas with visual regulations, including UNESCO (United Nations Educational, Scientific and Cultural Organization) areas like Saint-Émilion in France. The lay-down option is also well suited to growers using centre pivots for irrigation where fans are located.

A Growing Success Story

Over the last decade, FrostBoss's success has led to its revenue quadrupling. This achievement has been possible through strong partnerships, including with NZTE (New Zealand Trade and Enterprise) for all overseas market support, and a supply chain comprising global as well as local suppliers such as Metalform, Galvanising HB Ltd, ATI Engineering Ltd, and Port of Napier.

FrostBoss's Commitment to Excellence

With increased capacity and commitment to excellence, FrostBoss is ready to meet the demands of a changing world, protecting crops and livelihoods in the face of unpredictable weather patterns. ●

FrostBoss®

Betting on the future of Hawke's Bay horticulture

Genesis Nurseries chief executive Hayden Green has his eyes firmly on the future after Hawke's Bay's most challenging year.

Field Worker, Kara, during Hawke's Bay 2023 dispatch

Hawke's Bay RSE's during 2023 dispatch

Most of us with operations in Hawke's Bay's horticultural industry have a story to tell about Cyclone Gabrielle, and Genesis is no different. Like many others, GNL's Links Road nursery was severely flooded in Cyclone Gabrielle.

It was my job to hold the team together during this incredibly challenging time, and I had been in the job for just three months. But I learned if you have the right people in the right places, they kick into gear, take ownership, and make things happen.

We got hit very hard by silt, but our incredible nursery production team turned that around, and we have since ramped up our rootstock production to ensure there would be a pipeline of trees for our customers going forward.

This is important, because if the region is going to make a full recovery, it is going to need trees. Due to this hard graft, we're happy to confirm we have a significant supply of healthy rootstocks available for order now that will be ready for delivery in 2026 as a budded tree, or in 2025 as a bench-grafted tree.

Happily, our nursery tree production was untouched by the floods – those trees look fantastic and will be delivered to growers next year. For growers who want to get ahead with replanting, we have spare inventory for 2024 delivery, which could help them bring forward their recovery by a couple of years.

While we are realistic that growers will be doing it tough for some time to come, at Genesis Nurseries, we believe there is a bright future for our industry, and we want to help our customers through this challenging period.

We're investing in research and innovation while securing new and exciting IP (intellectual property). In fact, I've just returned from a trip to the United States and Canada, visiting industry-leading nurseries and breeders, as well as our IP owners, exploring some of the newer varieties coming through.

Genesis is working with IP owners on some of these varieties which we expect will play a leading role in the Hawke's Bay recovery. With an eye to the future, we've assembled a new senior leadership team to drive this forward, to ensure growers can access new IP as quickly as possible.

We wouldn't have made such bold moves at such a challenging time if we didn't believe in the long-term viability of the industry and the ability of New Zealand to continue producing the world's best produce. I genuinely believe that as a sector, working together, we will emerge stronger and more resilient than ever. Feel free to reach out to our team, and we welcome all growers to our nurseries to see what's on offer.

Get in touch

Email: **sales@gnl.nz**
Phone: **+64 21 827 831**

GENESIS NURSERIES®

RSE SUMMER SPECIAL

FOCUS ON HORTICULTURE AND THE RECOGNISED SEASONAL EMPLOYER (RSE) SCHEME

Hort calls for new government to progress RSE review

Nadine Tunley addressing the RSE Conference this year

Nadine Tunley : HortNZ chief executive

Horticulture had nothing to celebrate in September's announcement by former Minister Andrew Little to increase the Recognised Seasonal Employer (RSE) cap by a mere 500 people to 19,500. This decision did not recognise the important part horticulture plays in strengthening New Zealand's economy.

It does not give growers confidence to continue to invest as they go into the next harvest season. Horticulture has plenty of work available for Kiwis and our Pacific partners. This work creates jobs for New Zealanders and boosts the economy.

Other parties have recognised the importance of our sector and committed to much larger increases in RSE access. Our growers need a government that understands our requirements, will help us grow sustainably and meet the needs of our domestic and export markets.

> "Horticulture has plenty of work for Kiwis and our Pacific partners

We are watching policy commitments closely and will work with the new government to help our growers and the wider sector. Like many others, our growers have had a challenging time recently dealing with severe weather events, rising costs of production and closed borders affecting the workforce.

Earlier this year when we worked with government to set the Aotearoa Horticulture Action Plan, the sector set a challenge for government. We set an aspirational direction for the horticulture sector and the goal of a long-term policy to assist existing horticulture businesses and new entrants to have the confidence to invest in and grow the sector, in doing so contributing significantly to the growth of the New Zealand economy. The cap increase announcement fails that challenge. Industry requested the cap be increased by 1,600 to accommodate employers' requests for the coming season.

It is equally disappointing that the RSE policy review has not progressed – instead its stalled within the bureaucracy of Wellington. Industry has been working closely with our Pacific partners and government for years to progress the policy review to enable certainty. We, like the government, are focused on prioritising workers' wellbeing and the long-term sustainability of the scheme. This further lack of progress is creating more uncertainty for growers.

The horticulture industry is eager to work with the new government on the implementation of the policy to make swift and practical progress in improving the RSE Scheme, starting with the most pressing issues that will have the most benefit to our growers as well as Pacific countries that are part of the RSE Scheme.

The horticulture sector has always been a willing partner to ensure the scheme is fit for purpose and delivers for the Pacific and New Zealand. This is a balancing act. Throughout this review, we have gathered feedback from growers that employ RSE workers and made it clear to the Ministry of Business, Innovation & Employment and the Immigration Minister what needs to occur for the scheme to be viable into the future.

We look forward to the new government concluding the policy review and getting stuck into the implementation phase to ensure positive outcomes for the horticulture sector as well as our Pacific workers. ●

The inaugural combined Horticulture Conference in August included the 16th annual RSE Conference

RSE Conference connects Pacific partners

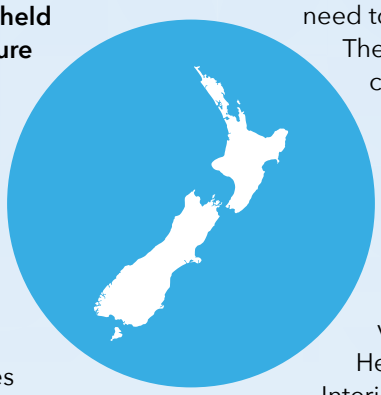
The 16th annual RSE Conference brought the Pacific and Recognised Seasonal Employers (RSE) together to share learnings and discuss the future of the scheme.

The Orchardist staff
Photos by Smoke Photography

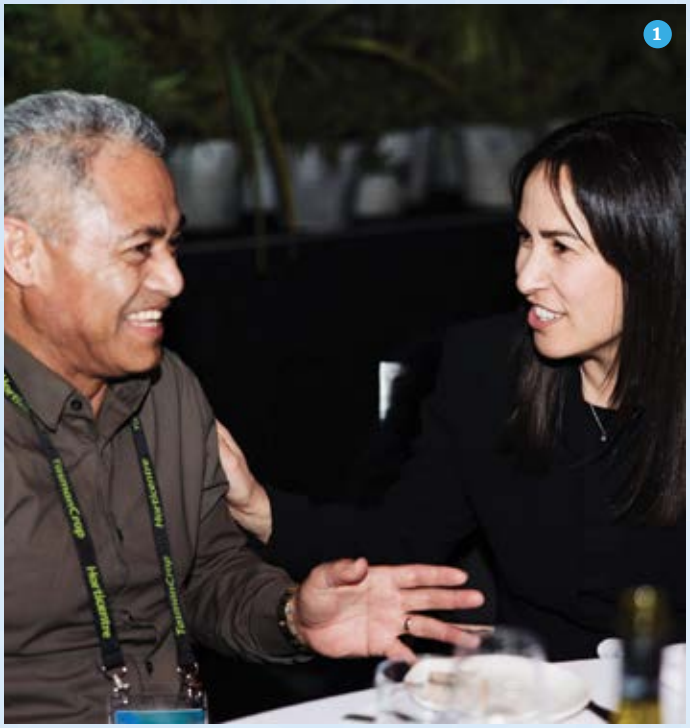
Pacific representatives, government officials, RSE Scheme employers and workers spoke at the event, held as part of the inaugural combined Horticulture Conference in August. The combined gala dinner provided a great evening event for connection and networking.

RSE Horticulture Manaaki Award for response to Cyclone Gabrielle

Afioga Tofilau Talalelei Taufale and his team led a coordinated response to help our RSE people during Cyclone Gabrielle. Hawke's Bay Pasifika and church communities and iwi demonstrated Pacific values of aroha, alofa and tautua (service) at a time of devastation and great need to support RSE workers and employers. The community provided temporary shelter, clothing, food, medical assistance including mental-health examination, spiritual comfort and counselling.



Tofilau, who was also a speaker at the conference, has been a big support to RSE Scheme workers in the Hawke's Bay region. He is of Samoan heritage from the villages of Iva, Luatuanu'u and Falelatai. He is the Interim RSE National Lead and Interim Commissioning Lead for the Pacific Directorate of Te Whatu Ora.



1 *Tonga RSE Liaison Officer for the South Island, Pita Akauola chats with Nadine Tunley, HortNZ chief executive* 2 *Tofilau Talalelei Taufale received the RSE Horticulture Manaaki Award on behalf of the Hawke's Bay Pasifika communities for their response and support of RSE workers and employers during Cyclone Gabrielle*

He says the response of the Pasifika community during the cyclone revealed the positive role that local churches and the Pacific community can play in the support and care of RSE workers, further enhancing what is possible when communities, employers and agencies come together. "I am heartened by the openness of industry to open up and be led by collective approaches to support the wellbeing of RSE workers. Looking across Hawke's Bay I have seen an evolution from what it was ten years ago to a much-improved approach towards the pastoral care and wellbeing of RSE workers today. It's not perfect but through learning experiences through Covid-19 and the cyclone, we have a golden opportunity to work closer together to take the scheme forward into the future. It's about realising ethical approaches that will benefit all."

3 *From left: Erolia Eteuati-Rooney, Te Whatu Ora; Tumema Faioso-Mitai, Te Whatu Ora Hawke's Bay; Gavin Stagg, Workforce Manager, NZKGI*
4 *From left: Regina Bumseng, Strengthening Seasonal Workers Family Programme in Vanuatu and HortNZ Industry Service Award recipient; Sanianna Trief, First Secretary, Vanuatu High Commission in New Zealand; June Rofeta Maenu'u, First Secretary Solomon Islands High Commission in New Zealand* 5 *From left: H.E. Jimmy Nipo, High Commissioner of Vanuatu to New Zealand; Va'atu'itu'i Apete Meredith, Trade Commissioner Samoa; Andrew Little, former Minister of Immigration*

Industry service award for supporting families of seasonal workers in Vanuatu

At the Horticulture Conference Peter and Regina Bumseng received an industry service award in recognition for their work in supporting RSE workers and their families through the Strengthening Seasonal Workers Family Programme. They established the programme in 2011 to support Vanuatu families while seasonal workers are in New Zealand. While the RSE Scheme provides many opportunities for countries in the Pacific, it can have a social impact on communities and households when family members are away for extended periods. Peter and Regina have seen the programme develop into a large support network which includes raising funds for families.

The response of the Pasifika community during the cyclone revealed the positive role that local churches and the Pacific community can play in the support and care of RSE workers, further enhancing what is possible when communities, employers and agencies come together.

FIJI

Fiji's untapped potential: A reliable source for RSE workers

As the seasonal labour demand in New Zealand continues to surge, there is a growing need to tap into reliable and enthusiastic workforce reservoirs.

Fiji has great potential to become a significant source for Recognised Seasonal Employer (RSE) workers. With their reliability, work ethics, and adaptability, Fijian workers will be an asset in New Zealand's seasonal workforce market.

Fiji's labour force boasts a diverse skills set, particularly in the agricultural and horticultural sectors. With a long history of cultivating sugarcane, kava (Piper methysticum), taro, fruits, and vegetables, this experience allows Fijians to ideally fit into New Zealand's agriculture and horticulture industry. Moreover, the Fijian workforce is known for its resilience, dedication, reliability and adaptability.

The strong cultural similarities between Fiji and New Zealand give way to a seamless integration of Fijian workers into the communities. Their friendly, fun loving and accommodating nature fosters a positive work environment and helps bridge cultural gaps, creating a cohesive and productive workforce.

Additionally, Fiji's geographic location in the Pacific region and proximity to New Zealand makes it an economical option for sourcing reliable labour due to the availability of flights daily at very reasonable cost.

Fiji High Commissioner H.E. Ratu Inoke Kubuabola (centre) visiting workers at RJ Flowers in Hastings. To his right is Second Secretary Josua Tuwere and to his left is RJ Flowers Manager John Evans

Furthermore, the Fiji Coalition Government has demonstrated its commitment to supporting its citizens seeking seasonal work opportunities abroad. The tireless work of Fiji's labour mobility unit to develop streamlined processes for the recruitment and deployment of Fijian workers, allows for a smooth transition for both the workers and employers.

So, why Wait? Explore Fiji if you are looking to expand your seasonal labour pool. With our diverse skill sets, strong work ethics, and cultural adaptability, Fijian workers have great potential to meet your organisation's and New Zealand's seasonal employment needs.

Fiji High Commission to New Zealand

For emergencies, immediate pastoral needs or passport queries and assistance

Melania Baba : First Secretary and RSE country representative
fs.fhcw@gmail.com
021 322 353

Josua Tuwere : Second Secretary
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021 416 148

Labour Management Unit

Mario Lui : Director
lmario@mepir.gov.fj

Maopa Mate : Team Leader Foreign Employment
maopa.mate@mepir.gov.fj
(679) 990 6387

PAPUA NEW GUINEA

PNG recognises the value that the RSE Scheme offers

Papua New Guinea (PNG) has participated in the Recognised Seasonal Employer (RSE) Scheme since 2012 and has benefited through the placement of its citizens in horticulture and viticulture.

RSE workers from Papua New Guinea during a visit from the former Papua New Guinea High Commissioner, H.E. Francis Agwi

PNG's participation has been a challenging one, in that the numbers over the years have been very minimal when compared to the increasing demand of 19,500 RSE workers needed by the New Zealand horticulture and viticulture industries per year.

The RSE Scheme is a significant labour mobility programme. Companies that have made massive investments (millions of dollars) into improving and enhancing the RSE Scheme. The latest annual RSE survey, released recently, showed more than 80 percent of companies said the scheme created more jobs for Kiwis, as well as employing RSE workers, debunking the myths that the scheme took jobs away from Kiwis and that Pacific Island workers are mere labourers.

In the absence of an in-country Liaison Officer, H.E., Jonathan Kidu, Acting High Commissioner of PNG works closely with employers to support the needs of PNG RSE workers. He visits growers throughout the country regularly throughout the year and is available when employers request urgent assistance.

> "PNG intends to provide the best possible support for its most precious human resource

"I can say with confidence that the economic and development opportunities found within the concept of 'labour mobility' are considerable and that PNG intends to provide the best possible support for its most precious human resource.

"During the last few years my visits to growers in New Zealand have given me deeper knowledge and understanding of the bilateral exchanges we have with New Zealand and the importance of people-to-people connection through this RSE Scheme. I hope that we will continue to all work together to improve our part in this scheme for the benefit of our people and the region." ●

Jonathan Kidu : Papua New Guinea Acting High Commissioner to New Zealand
jonathan.kidu@png.org.nz

SAMOA

Samoa invests in South Island liaison officer

Due to the increased numbers of employers and seasonal workers deployed in NZ under different labour mobility schemes, Samoa has invested in a second Labour Mobility Liaison Officer to focus on working alongside Recognised Seasonal Employers (RSE) and advocate for Samoa seasonal workers in the South Island.

From left: Dorothy Imeleta Ah Ching (Vice Consul General), H.E. Afemata Palusalue Faapo Lemalu (Consul General of Samoa), Tomasi Peni (Samoa Liaison Officer), Vaatuitui Apete Meredith (Samoa Trade Commissioner)

Tomasi Peni commenced his role as the Samoa Labour Mobility Liaison Officer in August. Prior to relocating to New Zealand, Tomasi spent a couple of months working with the Labour Sending Unit, Ministry of Commerce Industry and Labour (MCIL) helping with operations, with recruitment of worker and met employers that had visited Samoa to recruit for the harvest season.

Tomasi brings a wealth of experience which will support his role. He was a Principal Labour Inspector with MCIL, worked for the International Labour Organization as the National Coordinator for 10 years. His specialties are around International Labour Standard, promoting Social Protection and Decent Work, working on several thematic range from youth employment, child labour, green jobs, employer and workers right, occupational safety and health, promoting social dialogue in tripartism and Labour Migration.

> **“ Tomasi aims to work closely with employers, Samoan seasonal workers, the Samoa Consul General in New Zealand, and local Samoa village communities**

The role is to provide effective management and administration of the supply and demand for seasonal employment leading to economic and social opportunities for improved quality of life for communities back in Samoa. Therefore, he aims to work closely with employers, Samoan seasonal workers, the Samoa Consul General in New Zealand, and local Samoa village communities.

Tomasi has already met employers in the Hawke's Bay and will be conducting more site visits to familiarise himself with the groundwork in Hawke's Bay before relocating to the South Island where he will most likely to be based in Blenheim.

Tomasi Peni : Samoa Liaison Officer (RSE) South Island
021 248 3259
tomasi.peni@mcil.gov.ws

TONGA

Highest support for Tongan workers and community

Tongan workers, while making up only about 10 percent of the Recognised Seasonal Employer (RSE) Scheme in New Zealand, have developed a strong reputation for their very high work performance. We are very proud of our workforce!

One of our success stories this season was at the Hortus Awards 2023 where Tongans were the top three workers with the highest piece rate and earnings for the whole winter. They averaged $41-43 per hour!

The Tonga Government has invested heavily in the RSE Scheme to be a great partner for employers and also ensure that Tongan RSE workers and their families are well supported in New Zealand and at home.

With three RSE Liaison Officers in New Zealand, Tonga believes its high level of support ensures we can effectively maintain good partnerships with employers. We are the local first point of contact. We can help employers by facilitating the arrival and departure of RSE workers and manage relationships between workers and the communities they are staying in.

Tonga is the only nation participating in the RSE Scheme to provide a dedicated spiritual leader, Rev Siale Amato Uia, in New Zealand. He is an important part of the Tonga Government's efforts to keep RSE workers connected with their churches, families and communities back home. While the RSE Scheme provides many good outcomes for Tonga, it also creates issues in society. When mothers and fathers are away from home for extended periods, villages and communities need support and the church plays an important role in our society.

Knowing that their families and villages are behind them, and with in-country support from our three-person liaison team and dedicated reverend, Tongan RSE workers are motivated and enthusiastic to perform at high levels and keep coming back season after season.

David Fehoko from Tonga working on a Tasman orchard. Photo by Anne Hardie

Reverend Siale Amato Uia is Tonga's dedicated RSE spiritual leader

TONGA GOVERNMENT RSE LIAISON OFFICERS

Zone 1 - Northland to Bay of Plenty
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Mob 021 165 9707

Zone 2 - Hawke's Bay to Wairarapa
Tevita Lata
tevita.lata@gmail.com
Mob 021 073 4156

Zone 3 - South Island
Pita Akauola
pita.akauola@gmail.com
Mob 021 314 917

VANUATU

An introduction to Vanuatu's recruitment modalities

Vanuatu first participated in the World Bank pilot that ran from 2005/2006 bringing in 45 seasonal workers from the islands of Ambrym and Tanna in Vanuatu to work with Seasonal Solutions Cooperative Ltd in Central Otago.

The *fruit* of this pilot then went on to inform the Recognised Seasonal Employer (RSE) Scheme.[1] This pilot showed that recruitment was possible – even from a country with little experience of international migration – and helped cement ties that led to Vanuatu becoming New Zealand's largest supplier of seasonal workers.

Labour Sending Unit

Recruiting through the Labour Sending Unit (LSU) requires no service fee, except for the permits and license that RSE are required to apply for. The LSU provides administrative support only to RSE.

- It is the responsibility of all RSE to undertake the interviews and selection of workers. This can be done remotely or in country. The LSU facilitates remote interviews.
- The LSU will assist to coordinate completed paperwork, medical appointments, pre-departure briefings, and coordinate departure processes.
- RSE must coordinate all relevant visa and flight (travel) activities.
- RSE will be required to coordinate all arrival processes for workers.

The LSU advises that no recruitment activities are to be undertaken by an in-country Employer Representative or Team Leader on behalf of an RSE. The LSU team will liaise directly with RSE only.

Licensed recruitment agents

Recruiting through a licensed recruitment agent can be done by making direct contact with an approved agent from the current 2023 approved agent list.

There is no standard agent fee. The cost is negotiated between the RSE and agent at the time of engagement. Agents will advertise/source workers on behalf of the RSE or will engage workers from RSE referral lists (RSE provide their own list of workers).

On behalf of the RSE, agents will:

- Complete all worker documentation
- Apply for relevant overseas working visas

Vanuatu has become New Zealand's largest supplier of seasonal workers

- Coordinate pre-employment medicals with approved panel of doctors
- Coordinate mandatory pre-departure briefings through the LSU
- Coordinate all flight/departure details (all costs to be paid by RSE)
- Support workers with departure processes.

For a licensed recruitment agent list and permits/costs information, contact our New Zealand-based Country Liaison Officer:

Olivia Johnson
021 0255 1977
ojohnson@vanuatu.gov.vu

1. Seasonal Labor Mobility in the Pacific: Past Impacts, Future Prospects

SOLOMON ISLANDS

Solomon Islands to increase participation

In June, Solomon Islands celebrated a milestone: meeting a target under the country's Labour Mobility Strategy of sending 5550 workers under both the Recognised Seasonal Employer (RSE) Scheme and the Pacific Australia Labour Mobility Scheme.

With this achievement, Solomon Islands announced its next target: to have 16,000 Solomon Islanders working under both schemes by 2028.

Solomon Islands' ambition is fitting with a predominantly young and growing population, the need to provide economic opportunities is pressing. Labour mobility is an approach to easing the country's worrying burden of unemployment.

Solomon Islanders themselves recognise the importance of labour mobility in improving their livelihood, and in investing in their future. In April of this year, the Solomon Islands Labour Mobility (LMU) – under the Ministry of Foreign Affairs and External Trade (MFAET) – conducted a public recruitment drive for the LMU's Work-Ready-Pool (WRP) and subsequently recorded more than 16,000 applications.

However, despite strong interest in the RSE Scheme and a ready pool of workers primed for seasonal work, Solomon Islands worker numbers still lags behind other RSE labour-sending countries. Since joining the scheme in 2010, Solomon Islands is sending a little under a 1000 RSE workers annually. The LMU / MFAET priority now is to increase the annual RSE worker participation to more than a 1000.

> "Labour mobility is an approach to easing the country's worrying burden of unemployment

In the interest of increasing RSE numbers, Solomon Islands continues to improve its internal administrative systems for visa and ATR submissions, recruitment processes, customer service, pre-departure briefings, flight connectivity and in marketing workers to potential employers.

The RSE workers themselves are a testament as to how they have added value to their employer's orchards, vineyards, and packhouses. Hard-working, eager, loyal and "here to work", employers consistently

Solomon Islands Foreign Minister Hon. Jeremiah Manele and delegation visiting Solomon Islands RSE workers at Hortus Ltd in Blenheim

commend Solomon Islands RSE workers for their productivity. With such positive employer feedback, the Solomon Islands High Commission in Wellington is fully assured of the capacity to grow numbers, meet the new set of targets, and continue to provide mutually sustainable benefits for Solomon Islands and New Zealand.

The High Commission encourages employers to reach out to the office for information on recruiting from the Solomons. ●

June Rofeta Maenu'u : Solomon Islands RSE Onshore Country Representative
June.Rofeta@sihc.org.nz
021 0241 7145

Tuvalu reaches 200-worker mark

Tuvalu is an independent island nation in the South Pacific, with a population of around 12,000 people. Before Independence, Tuvalu was known as the Ellice Islands and was one colony with Kiribati (then known as Gilbert and Ellice Islands).

Tuvalu consists of three reef islands and six atoll islands (nine islands in total), all separated by the ocean. All the islands are flat land (approximately 2 metres above sea level) and have no mountains. Therefore, Tuvalu is very vulnerable to climate change and sea level rise. It takes at least 6 to 24 hours to travel by vessel to the outer islands to and from the capital Funafuti. The current flight routes into and out of Tuvalu are through Fiji – for workers to get to New Zealand, this is the only route they take.

> "Tuvalu is happy to welcome new employers as well as existing ones wishing to employ workers from our small country

Funafuti atoll, Tuvalu

Tuvalu and the RSE Scheme

Tuvalu has been part of the Recognised Seasonal Employer (RSE) scheme from the beginning with up to 200 workers. In 2023, Tuvalu finally touched the 200-worker mark, and intends to continuously increase the number of RSE workers in the years to come. Tuvalu is happy to welcome new employers as well as existing ones wishing to employ workers from our small country.

Currently, Tuvalu has two types of recruitment: direct recruitment, and recruitment through the Labor Sending Unit (LSU) from the Work Ready Pool. Tuvalu's Recruitment Policy is currently under review and the Department of Labour is the main contact point for any worker recruitment. On the other hand, The Tuvalu High Commission in Wellington assists the Ministry of Labour/ Department of Labour in looking after the RSE workers whilst in New Zealand, including but not limited to checking up on/visiting the workers, looking into worker complaints or complaints/ issues from the employer(s). ●

Labour Sending Unit in Tuvalu

Telieta Manuella : Director of Labour Department
tellyfinauga@gmail.com

Tuvalu High Commission in Wellington

Palipa Lauti : Deputy High Commissioner
palipa.lauti@tuvaluhc.org.nz

Melissa Ako : Legal Attaché
melissa.ako@tuvaluhc.org.nz

KIRIBATI

Recruit your workers and support Kiribati

Kiribati is a Central Pacific nation of 33 coral islands with a vast exclusive economic zone covering 3.5 million square kilometres. The total population in 2020 was 119,438.

Kiribati is faced with many social and economic challenges. It has a lack of employment opportunities. It depends heavily on imports for essential needs. The low-lying islands cannot support agriculture, and are constantly threatened by the effects of climate change. Any rise in the sea-level due to seasonal weather patterns will result in the breach of the island's freshwater supplies.

The Kiribati Government and people of Kiribati see the RSE Scheme as offering a solution to its many social and economic challenges.

Employment in the RSE Scheme is highly sought after. Our workers and the Kiribati economy not only benefit from remittances but also from the skills that our workers acquire during their contracts. These enable them to set up their business, support children's education, build resilience homes, and many other things. There are about a thousand in the work ready pool – a pool of ready workers who have undergone testing and training and ready to deploy at a moment notice.

Kiribati's Minister for Employment and Human Resources, Hon Tabeta Amuera (standing in the middle at the back) with workers at Woodhaven, Levin, during her visit this year

Recruit your workers from Kiribati and you will discover how our cultural values of respect, reciprocity and compassion add value to your company. You will help Kiribati ease its unemployment problems and help Kiribati workers and their families improve their social and economic wellbeing.

In return, the Kiribati Government provides you with full support in recruiting, training and in organising travel. You will have a full say on the type of workers you require. If you so wish you can send your representative to Kiribati to interview and screen workers.

There are also two liaison officers based in New Zealand that employers can call upon to assist with their workers. The Minister responsible for the RSE workers also visits New Zealand annually to meet with the employers and the workers.

Kiribati Government

Batetaake Tatoa : Director of Labour
director@employment.gov.ki

Kiribati Liaison Officers in New Zealand

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Teaiaki Koae
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Summerfruit has come a long way on the RSE Scheme

Kate Hellstrom : Summerfruit NZ chief executive

New Zealand's summerfruit industry has benefitted hugely from the Recognised Seasonal Employer (RSE) Scheme. Yet, as the scheme has grown it has become cumbersome and shrouded in uncertainty. Summerfruit NZ wants to see action from the new government, while at the same time we urge growers to recognise their role in the scheme's future success.

RSE workers have become the backbone of our orchards – particularly those who return year after year. In Central Otago for example, you will meet some of the scheme's original workers who are still returning to cherry orchards more than 15 years later. Their skill and knowledge – as well as their work ethic – has made them trusted and highly valued team members. You can see this in the number of orchard owners who are travelling to the Pacific islands to develop these important relationships with the communities and families that make the RSE Scheme possible.

The cap on RSE workers is not growing fast enough, exacerbating labour shortages that only add to the stress and strain on our orchards. The summerfruit industry continues its attraction and recruitment plans to employ New Zealanders looking for seasonal work. We also recognise that the RSE Scheme has meant more permanent jobs for New Zealanders who are making careers in horticulture. It has increased the scale of summerfruit's export industry, which in turns leads to more capital investment in innovation, increasing our competitiveness in global markets, and feeding into local suppliers. The idea that New Zealanders are missing out on first access to jobs is simply not true.

Here in our own communities, we're becoming more culturally aware, more open to understanding our pastoral care duties from a Pasifika perspective. This has come about through leadership: leaders from the industry, leaders among senior RSE workers, and leaders from the participating Pacific governments. We would like to think that instances where the scheme has been abused are few and far between, but that is why we support these leaders and encourage open communication with our Pacific partners.

Certainly, scrutiny of the scheme is justified, but it is clearly in the industry's interest to ensure the RSE Scheme remains successful. As an industry, we must demonstrate that we can lead this scheme forward and we are ready to deliver the assurances that the government rightly demands.

> **"Some of the scheme's original workers are still returning to cherry orchards more than 15 years later**

However, the government must also step up and prove that it can enable industry by providing certainty and eliminating wasteful bureaucratic costs and delays. We need multi-year certainty in our planning. We cannot be expected to invest in more high-quality accommodation and simply hope that the government will increase the cap to fill it.

Summerfruit NZ fully supports the government's ongoing review, but it is taking far too long to provide growers and Pacific nations with the certainty that we need to invest in the RSE Scheme. ●

Solution to kiwifruit labour demand lies in a multi-prong approach

Colin Bond : New Zealand Kiwifruit Growers Incorporated chief executive

New Zealand's kiwifruit industry is reliant on workers from the Recognised Seasonal Employer (RSE) scheme. They are a critical source of labour that our employers rely upon for shifts which cannot be filled by New Zealanders or other seasonal workers.

At the end of September, Immigration New Zealand announced a modest increase of 500 additional visas that may be granted under the Recognised Seasonal Employer (RSE) scheme for the 2023/24 season, in addition to the current cap of 19,000 visas.

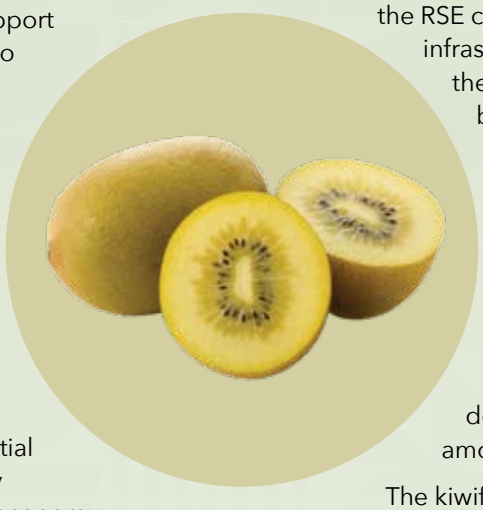
The increase in the cap which has been allocated to our industry will not be enough to support growers and others who manage RSE's to run their businesses in the best possible way, ultimately negatively impacting upon their profitability which flows on to the local economy.

We will be advocating that the new government makes a significant increase on this cap for the 2024/25 season.

Despite a couple of challenging years, we remain optimistic about the future of the kiwifruit industry. We have the potential to grow our exports and provide a badly needed injection into the New Zealand economy. In the short- to medium-term, that potential will only be realised with policy settings which give growers the confidence to continue to invest.

Our message to the new Government remains the same. We need more certainty around the scheme for this investment.

The RSE Policy Review which aims to create these settings as well as provide stronger employment policies is well overdue. Much of the future of the scheme hinges upon the outcome of the RSE policy review which remains incomplete.



The scheme in its current form is tainted with uncertainty and does not support the growth aspirations for our rapidly growing kiwifruit industry. What we have been requesting is:

- An allocation process that supports best employment practices.
- A cap setting that is an outcome of employers focusing on New Zealanders first and reflects the needs of the Pacific Nations' workforce.
- Fair and transparent allocation of costs associated with RSE workers.
- Ensuring that robust operational processes are in place.

In the short- to medium-term, continually increasing the RSE cap is necessary to enable our infrastructure and processes to keep up with the increasing production demanded by our consumers. However, it is not in the kiwifruit industry's interest to solely focus on a labour mobility scheme to fill the demand for labour that we cannot source domestically. The solution lies in a multi-prong approach in addition to the policies such as the aforementioned RSE Policy Review, one that includes research & development and capital investment, amongst others.

The kiwifruit industry has a responsibility to continue capital investment into automation with the aim to create efficiencies both in packhouses as well as on orchards which reduce our demand for labour. In the long-term we need to expand even further in this area by realising outputs from our aforementioned research and development innovation streams.

The solution is clear, but requires industry, government and our Pacific partners working together over the long-term to deliver success for our growers and regional economies.

Avocados increasingly reliant on RSE

Matthew Ball : NZ Avocado marketing and communications manager

Getting young people to work in horticulture is becoming increasingly difficult as job prospects in other areas appear more attractive, highlighting the need for Recognised Seasonal Employer (RSE) workers as an essential element of horticulture in New Zealand.

Many orchard businesses are experiencing a downturn in income while also having to navigate legal and financial risks when applying for the annual agreements required to become a Recognised Seasonal Employer. With production on some orchards increasing, so does the need for additional RSE labour, and many registered RSE employers still rely on joint Agreement to Recruit (ATRs) with other orchards to accommodate the additional staff requirements.

The size of an orchard, tree height, and orchard layout influence the need for labour. Orchards with shorter trees allow for reduced staff requirements, whereas an orchard with trees that are 5 metres or taller will need machinery, which requires a skilled operator and health and safety training for staff.

Some of the avocado industry's larger Northland orchards are utilizing an increasing amount of RSE labour. For instance, one 160-hectare orchard currently employs 10 permanent staff and has 18 RSE workers for harvest, pruning, and maintenance work. This RSE number will increase to around 50 when in full production, while another 35-hectare orchard that is more mature currently employs 3 permanent staff and 40 RSE workers for thinning, harvest, and pruning.

Several years ago, orchards like these only had access to backpackers, students, and local staff for the harvest period. Relying on this type of staff made seasonal planning difficult, with a significant amount of variability when it came to efficiency and availability.

Orchard owners of these larger operations are noticing that RSE workers are having positive experiences and enjoying their time on the orchard. "We have good accommodation and facilities for our staff, and this makes the orchard a home away from home."

RSE employers have noticed that RSE staff tend to be highly motivated and operate as a team which keeps them productive, while earning nearly double the minimum wage.

"Ideally, we would like to bring the same team over every year so that they know the orchards and the type of work required, and no additional training is required. Our management staff even visit Vanuatu and meet the staff at their homes to get to know the families and build a relationship with them. This process has been a win-win for the RSE workers and our orchards. We still always employ as many local workers as we can and try to train and promote them as permanent staff."

"RSE employers have noticed that RSE staff tend to be highly motivated and operate as a team which keeps them productive, while earning nearly double the minimum wage

In the Far North, there remains some labour availability, yet a lack of attendance, especially on weekends, remains an ongoing challenge. This makes access to RSE labour a critical requirement for both the growth of the sector and the profitability of individual orchards. ●

RSE is now part of our industry

Karen Morrish : New Zealand Apples and Pears chief executive

I'm very proud of the Recognised Seasonal Employer (RSE) Scheme. It is a proud history. A seasonal employment workforce that grew 15 years ago in the spirit of a partnership between Kiwi growers needing help during the short seasonal peak and people in the Pacific keen to work in New Zealand.

And I am proud of it today. Today, more than half of the people coming through the RSE Scheme work in the apple and pear industry.

The figures are impressive – $116 million sent home every year people by people working in the RSE Scheme. Our industry has reached nearly $900 million in export earnings. Seasonal labour is helping us to grow, and grow into the most productive apple industry in the world, now known for the best apples in the world.

Our provincial fruit-growing hubs have grown too, our local economies boosted by enabling seasonal labour. Places like Hastings have grown into vibrant town centres, up and downstream businesses and the wider community all benefiting from growth.

The impact is inspirational. Earnings sent home to the Pacific quite literally built homes, sent children to school, covered life-saving medical treatments, enabled villages to access fresh water, and fed into local economies.

RSE is one of the most tightly regulated labour mobility schemes, particularly when we consider the additional worker well-being compliance for the sector with all growers required to be accredited with NZGAP as well. But, let me be clear, the few instances of operators breaching the rules are disappointing. We have zero tolerance for this kind of behaviour.

We know the scheme works and works well, but we know that after 15 years, it's time to make improvements. The government's review of the RSE Scheme is much needed and we welcome it.

So, to our new government – we need urgent changes to the scheme. Changes to the scheme must be informed by evidence, best practices and in partnership with industry and the Pacific. Urgent changes are needed now to allow growers to plan for the coming season. Changes are needed across employment details to reflect today's conditions to ensure fairness for all partners. We need recognition of international industry labour regulations and standards which exceed any New Zealand regulatory requirements. We need to support good employers and hold the few who aren't to account. Talk to us, and let's progress the review!

> **"... more than half of the people coming through the RSE Scheme work in the apple and pear industry**

To the apple and pear industry and the wider industry involved in employing RSE workers. The RSE Scheme is more than a scheme, it is now part of our industry, enabling us to grow. We must take care of it and continue to commit to our high standards and ethics.

And lastly, to the Pacific – people coming through the scheme, their families and their communities – I acknowledge the sacrifices you make to join us. Thank you for being part of our community. We want to continue to work with you not just through the scheme, but to improve the scheme.

We are committed to ensuring the scheme is the best it can be – for all parts of our community – our growers, our regions and for our Pacific partners.

The changing post-Covid RSE landscape

Helen Uiese
HortNZ labour manager

Horticulture employs more than 40,000 people, of whom about a third (on a Full-Time Equivalent basis) are Recognised Seasonal Employer (RSE) Scheme workers employed for seasonal peaks. Helen Uiese joined Horticulture New Zealand in July as labour manager, working closely with horticulture partners, Pacific liaison officers and the New Zealand government.

What was your background before joining HortNZ?

I've been involved in the labour mobility space since 2015 with Samoa's Ministry of Commerce Industry and Labour. I moved to Hastings in January 2020 to work as the Samoa labour mobility liaison. I was the focal point and advocate for all Samoa seasonal workers across New Zealand. Part of my role was to foster relations with employers and government organisations such as the Ministry of Business, Innovation & Employment (MBIE) and the Ministry of Foreign Affairs & Trade (MFAT).

What motivated you to join HortNZ?

I started as the Samoa labour mobility liaison at the time that Covid-19 exploded. But it was the right job at the right time for me. Covid-19 presented challenges that transformed the RSE landscape. It was a time for stakeholders to review RSE policies and processes and initiate better support measures for workers and employers. The time and effort I spent observing behind the scenes made me realise there was so much more to explore in the RSE eco-system. I was inspired to work for HortNZ after being part of the RSE Tripartite Working Group, to understand the mechanics from an industry perspective – not just in the RSE eco-system but horticulture as a whole and its contribution to New Zealand's economy.

Support for cyclone-affected RSE workers this year included $150 supermarket vouchers from Digicel Pacific

How have employers responded to the post-Covid RSE landscape?

Many employers have gone above and beyond to ensure their people are afforded comfortable and safe facilities. We cannot overlook areas for improvement. Employers are raising concerns about costs –dependent on the government's RSE policy review which we are trying to drive for completion as soon as possible. We are also hearing from employers that they would like to better understand Pasifika cultural requirements. So we see ongoing investment in this vital work being called for across all involved in the RSE Scheme. The same applies to safety. Grow Home Safe has an exciting trial underway that is melding Pasifika culture and Safety II thinking. We must also be responsive to the concerns of our Pacific partners on social impact, and we hope to work with our Pacific partners and government to address that. Nevertheless, RSE remains a valuable scheme for both New Zealand and the Pacific countries that participate – not just in remittances but in skills transfer and direct investment whether it's at an individual or community level. ●

To find out more, visit:
www.hortnz.co.nz/people-jobs-and-labour
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HORTICULTURE NEW ZEALAND
HortNZ advocates for and represents the interests of New Zealand's 4200 commercial fruit and vegetable growers. HortNZ's purpose is creating an enduring environment where growers thrive. HortNZ has 20 affiliated product groups and more than 30 affiliated local and regional grower associations. Find out more on **www.hortnz.co.nz**.

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