

Days of devastation

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Rebuilding with resilience

As I write this, words are still failing me. The horrible pictures of utter devastation we are seeing through the media make me feel sick to my stomach.

Barry O'Neil : HortNZ president

To all the growers and their families who have been seriously affected, our thoughts, prayers and our wishes are with you.

While I am seeing pictures of utter devastation in the Esk Valley, Puketapu, Dartmoor, Pakowhai, Whirinaki, Taradale, I know other growing areas have also been badly affected, such as the wider Hawke's Bay, Waipukurau and Tairāwhiti. It was a very cruel cyclone. Growers in some of our key areas are facing complete or near complete losses to their crops.

Looking farther afield, while maybe not facing the same levels of devastation, growers have been significantly affected in many regions including Coromandel, Pukekohe, Dargaville, right up to the Far North.

“

There are fantastic stories of growers helping... whether on their ute, tractor, or even a helicopter

The first priority in such a huge event is people's safety. There are fantastic stories of growers helping to save people during the event, and then being part of the search and rescue efforts that followed, whether on their ute, tractor, or even a helicopter. And while the tragic death toll continues to rise, it could have been much worse without the efforts of so many brave people who took it upon themselves to help others in need.

I want to thank the team at Horticulture New Zealand, who have also done a huge amount of work with the product groups to make sure horticulture workers are safe. And importantly, at the same time, we are facing the Government to get the support that is going to be needed to start the recovery.



I thank Government Ministers and officials at the Ministry for Primary Industries for getting first hand understanding of the situation, and for their engagement and support which we are seeing starting to happen. The Government's initial \$4 million fund, Enhanced Taskforce Green, and then the \$25 million fund will all hopefully provide growers with some assistance they desperately need to start cleaning up the mess. But these contributions, while gratefully received by the industry, is we believe just the start. It will take significantly more Government support to recover from this – along with a positive approach from the banks involved.

We recognise the fantastic efforts from growers outside of the affected regions – providing labour and machinery. The donations coming into the recovery funds, including support from the NZ Fruitgrowers' Charitable Trust, provide much needed help. It's one step at a time after this sort of event. It is really important to have a plan to focus our efforts and energy at a time when our head and lives are spinning – for our own wellbeing and being able to cope, and importantly to get ourselves back into business.

“

We need a serious conversation about a more strategic approach and taking action to build resilience

While it may not be easy to see, we will get through this and horticulture will once again shine. It is not going to be easy or quick. We may need to stop growing in some locations, and some unfortunately may decide it is just too hard and leave the sector, but most of us will get there.

We have had adverse events before, plenty of them, and we will have them again. Rebuilding with more



resilience is important, and especially with our core infrastructure. Roads, power, communications, internet are being fixed now, but we need a serious conversation about a more strategic approach and taking action to build resilience into these critical areas. And forestry practices must change!

Look after yourself, your whānau and your neighbours. Together we can and will get there.

Kia kaha. ●



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Growers need coordinated support

When we look back in years to come, I am sure Cyclone Gabrielle will go down in history as one of the biggest weather events to affect the country – in particular the Hawke’s Bay, Gisborne and Northland – and the horticulture industry in those areas. The devastation to people, houses, land, businesses and infrastructure is immense.

Nadine Tunley : HortNZ chief executive

It has been heartening to see how growers have come together to support each other – whether with equipment and labour during the clean-up or with advice and know-how. Growers deserve the nation’s thanks, not only for battling to maintain our food supply, but also for past flood prevention and soil management initiatives. The damage could have been even worse without these valuable projects.

Everyone wants to help, that is only natural. However, that help needs to be coordinated on the ground, with almost military precision, given the scale of the impact and the challenges the clean-up and recovery pose. The challenge is to coordinate this activity and maintain the support and momentum over the next several months. Please continue to make connections within your communities and reach out to Horticulture New Zealand and product groups.



In Hawke’s Bay – the area worst affected by Cyclone Gabrielle – New Zealand Apples and Pears Incorporated (NZAPI) is doing a superb job on the ground, supported by HortNZ and other product groups with growers in that area. There is a lot of product group and district association activity and support taking place in areas such as Gisborne, Northland, Pukekohe and the Bay of Plenty.

It is important that growers, and those helping them, look after themselves and the others around them. I know this might seem almost impossible, but it is vital for morale and stamina. For those looking for advice in this area, there’s the Rural Support Trust and Farmstrong. To those not directly affected, please make it a priority over the coming months to check on people’s wellbeing and offer help, but in the most coordinated way possible. Product groups and district associations will play a significant and ongoing role here.



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Editors:

Emily Pope
Ph: 027 617 6200
Email: emily.pope@hortnz.co.nz

Andrew Bristol
Ph: 021 021 62 021
Email: andrew.bristol@hortnz.co.nz

Advertising Manager:

Jackie Enright
Ph: 04 494 9986
Mobile: 0274 489 913
Email: jackie.enright@hortnz.co.nz

Design:

Scenario.co.nz
Ph: 04 385 9766
Email: joy@scenario.co.nz

Subscriptions:

Email: info@hortnz.co.nz



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Now that growers can get back on their land and have started the clean-up, they are being asked to quantify the impact on their operations. This data and information will inform future phases of the government's response. As a result, it is important that it outlines as accurate a picture of total impact as possible. It will take time to collect and analyse the data.

HortNZ is working with product groups and the Ministry for Primary Industries to try and ensure that growers are only asked once to provide data and information as to short and long-term impact. This is a reflection of HortNZ's industry-wide role as well as the government's expectation that it talks to one representative body, particularly in times of crisis and recovery.

Recovery will take years – just like it has taken Christchurch more than a decade after the 2011 earthquakes. Even then, it will not necessarily be a return to how it was before the cyclone struck. Several fundamentals like food supply and security will need to be looked at. Some tough decisions will have to be made, and there will need to be vision, planning and coordination.

It seems a long time ago that I was in Tairāwhiti Gisborne on 1 February to launch the government and industry strategy *Growing Together 2035 - Aotearoa Horticulture Action Plan*. But I believe more strongly than ever that this is the ambition we need. We must work together efficiently to make significant and enduring change to ensure our long-term success. Our industry does have a bright future, however, there is much to be done. Let's get on with it. ●



Horticulture industry responds to North Island flooding and Cyclone Gabrielle

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INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD

Natural resources and environment

Submission on the Natural and Built Environment Act Bill and Spatial Planning Act Bill consultations

This month, Horticulture New Zealand submitted on the *Natural and Built Environment Bill* (NBB) and the *Spatial Planning Bill* (SPB), the first two of three acts that will replace the *Resource Management Act* (RMA). Our submission made clear that the reforms are being pushed through too quickly without enough time for public engagement. In terms of the details, the NBB sets out priorities for the National Planning Framework, a new document that will guide all planning decisions around the country. We asked that food be included as a “system outcome” and a matter that the National Planning Framework must address, which would carry down to all regional plans.

“

Horticulture is a low-emissions industry that protects the resilience of our national food supply, which we think should be rewarded with more resource certainty

We also emphasised that the proposed 10-year maximum water consents are not nearly long enough. Instead, we argued that consent duration should be linked to how well an activity is meeting the Bill’s outcomes, including climate change mitigation and adaptation. Horticulture is a low-emissions industry that protects the resilience of our national food supply, which we think should be rewarded with more resource certainty.

Submission on Local Government Reform consultation

HortNZ also submitted on the *Review into the Future for Local Government Draft Report*, which imagines what local government’s responsibilities will be after their powers are changed by the RMA reform. The report contained a chapter about promoting wellbeing, so we focused our submission on why food production is essential for social, economic, cultural and environmental wellbeing in New Zealand. We challenged local government to invest in innovation hubs, like one currently being planned in the vegetable sector, that bring growers, university and private researchers, iwi and policymakers together to discover horticultural solutions for the future and train the next generation of food producers. We also called for flexible planning decisions that will allow for horticultural expansion across the rural-urban divide. If local governments are going to start coordinating with each other more, as the Draft Report suggests, a coordinated approach to food security would connect policy supporting growers to ensuring a healthy, well-fed population in the best interest of the nation at large.



Submission on Government's Freshwater Farm Plan (Exposure Draft) Regulations

In early February, the government confidentially released an exposure draft of the *Freshwater Farm Plan Regulations* to select individuals and organisations, including Horticulture New Zealand.

HortNZ prepared a submission on the exposure draft. A key submission point was the inadequate public consultation on the exposure draft, and the primary legislation that supports it in Part 9A of the Resource Management Amendment Act 2020.

“

HortNZ continues to seek a workable pathway in the regulations for industry assurance programmes

The confidential nature of the consultation limited the ability of HortNZ to consult with its members. In addition, Part 9A of the RMA was passed under urgency in 2020 without the benefit of public scrutiny through the select committee process. This limited the ability of people like growers, who will be most impacted by these regulations, to provide input and feedback.

HortNZ continues to seek a workable pathway in the regulations for industry assurance programmes, like GAP, to deliver audited and certified freshwater farm plans. And that audit and certification is consistent with the ISO (International Organisation for Standardisation) framework and international practice.

Marlborough District Plan Mediation on Water Quality

Marlborough District Council notified the Proposed *Marlborough Environment Plan* for public consultation in June 2016. The 'decision' version was notified in February 2020. The decision was appealed, and HortNZ is participating in mediation.

HortNZ has been mediating on the water quality topic and has included advocating for the quality of irrigation water to support food production and for an approach that provides for cultivation with mitigation to manage soil loss.

Proposed Otago Regional Policy Statement Hearings

The *Otago Regional Policy Statement* sets the direction for future management of Otago's natural and physical resources. The Regional Policy Statement establishes the framework for Otago's regional and district plans.

“

HortNZ has been mediating on the water quality topic and has included advocating for the quality of irrigation water

HortNZ has been presenting planning and industry evidence at the hearings. One of the topics HortNZ has been promoting is the need for greater emphasis on the rural environment. ●

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Food safety during flooding events

Gabi Hidvegi : HortNZ risk policy advisor

WEATHER
FEATURE

On 27 January 2023, Auckland experienced severe flash flooding and unprecedented rain – one month’s worth of the city’s rainfall in one day.

The upper North Island has continued to be in the firing line of climatic extremes with Cyclone Gabrielle causing further downpours and flooding, gale force winds and the declaration of a National State of Emergency.

While personal safety is paramount, understanding and managing the food safety risks associated with flood-affected fresh produce is also critical.

If your property has been affected by flood water, it is important to undertake a risk assessment taking into consideration things such as:

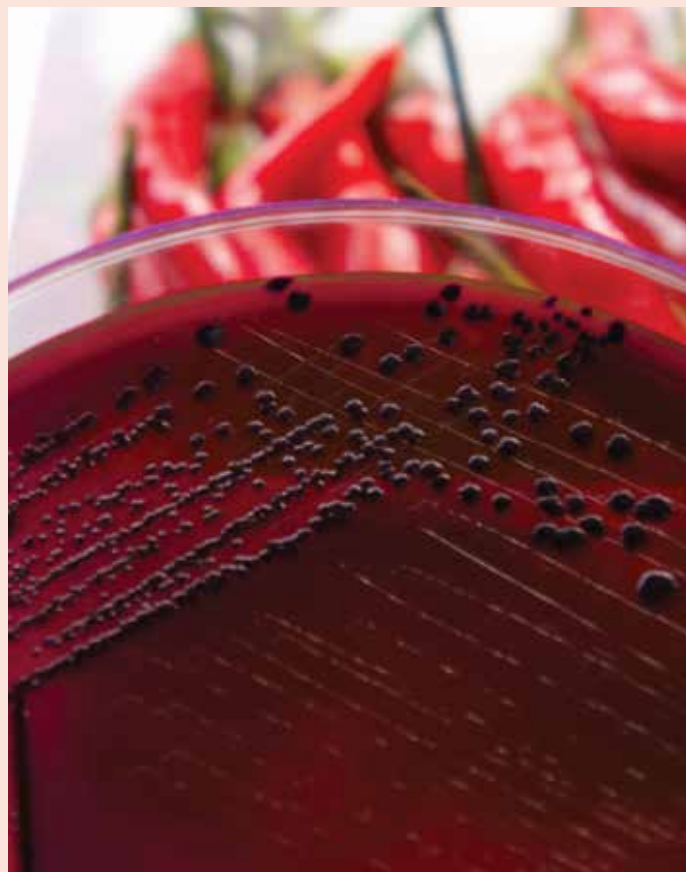
- ⚠ whether the edible portion of the crop has been in contact with flood water or flood water ‘splash’
- ⚠ how any flood-affected crop can be identified
- ⚠ how you plan to manage those food safety risks.

Flood waters may have:

- ⚠ Microbial contamination caused by sewerage or septic tanks, animal waste, dead animals and decaying vegetative waste.
- ⚠ Chemical contamination from petroleum products, mechanical equipment, historic dumpsites, pesticides, and other agricultural chemicals. Potential sources of chemical contamination will vary greatly depending on the severity of the flood and the proximity to other operations.
- ⚠ Physical contamination with debris.

Undertaking a risk assessment:

New Zealand Food Safety (NZFS) have recently updated their guidance for harvesting produce affected by flood waters. The guidance outlines factors to consider when determining whether flood-affected produce is safe to harvest.



Download the guidance here: <https://www.hortnz.co.nz/flood-support/food-safety-for-flood-affected-produce/>

It is critical we maintain focus on managing food safety after flooding, as access to safe and nutritious food is key to sustaining life and promoting good health. ●



Download the guidance here:
<https://www.hortnz.co.nz/flood-support/food-safety-for-flood-affected-produce/>

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HortNZ chief executive Nadine Tunley (left), Minister of Trade and Agriculture Damien O'Connor (centre), and the then Regional Development Minister (and MP for East Coast) Kiritapu Allan showcase HortNZ's new Aotearoa Horticulture Action Plan. It is hoped that, by 2035, the plan will have helped nearly double the value of New Zealand's horticultural production to \$12 billion

Bold action needed to achieve big outcomes for industry

If you want to be part of the success, you have to be part of the solution, is the word from the architects of a bold new strategy for the horticulture sector. Words and pictures by KRISTINE WALSH.

A plan to nearly double the value of horticulture production by 2035 has been years in the making, so few were fazed by having to wait a few more hours for its official launch.

As dignitaries, growers and industry and government affiliates gathered in Gisborne for the 1 February launch, news came that the Minister of Trade and Agriculture Hon Damien O'Connor and then Regional Development Minister (and MP for East Coast) Hon Kiritapu Allan were delayed by flight disruptions.

In response, the organisers brought forward a planned tour and juggled their programme of speakers.

The Aotearoa Horticulture Action Plan: Growing Together

2035 itself lays the groundwork for an equally nimble approach to combat challenges in the sector, though one rooted in a deeply considered long-term strategic approach.

The plan builds on primary industry export success that has seen values rise by 39 percent since 2017 to a record \$53 billion last year, with horticulture contributing \$6.7 billion.

But while that contribution is expected to top \$7.1 billion in 2023, there are strengthening headwinds in issues from compliance and labour force costs to the increasingly devastating impacts of climate change.

Devised by the "quadruple helix" of industry, government, science and Māori, the plan builds on the vision that Aotearoa New Zealand is "synonymous with world-leading

healthy produce grown with care for people and place.”

To succeed, the plan must tackle the nuts-and-bolts issues facing the sector.

But Horticulture New Zealand says it must also be rooted in social licence, with an understanding that growers are key to “feeding the future” from how produce is grown, picked, packed, transported and sold, to how the sector improves productivity, innovates, and grows its communities, people and market value.

That, says Horticulture New Zealand chief executive Nadine Tunley, was why it was decided to launch what is a national plan in the distinctly regional Tairāwhiti Gisborne.

“Its key strengths are in what was brought to the table by that quadruple helix,” Nadine said in opening the event.

“So to showcase those aims with any authenticity the strategy had to be launched here in te Tairāwhiti.”

Action Plan governance group chair Andrew Gibbs described the strategy as a “monumental” effort on the part of many contributors, stimulated by exploring issues in a post-Covid-19 environment.

“**...my challenge to you is to work on what we can do to implement it**

“What became clear was that those issues were not going to go away and we needed a long-term strategy to address them together,” he told those gathered for the launch.

“Now that we have it, my challenge to you is to work on what we can do to implement it.”

In general, the plan presents a number of actions to achieve five main outcomes:



To grow sustainably



To optimise value



To foster Māori strength in horticulture



To ensure action is underpinned by science and knowledge



To nurture people





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Te Aitanga a Mahaki Trust member Whitiaua Ropitini welcomes guests to HortNZ's launch of the Aotearoa Horticulture Action Plan: Growing Together 2035



New Zealand has worked hard to build an excellent brand for quality, says Minister of Trade and Agriculture Damien O'Connor

Nadine says the actions will work together to grow the overall sustainability and value of Aotearoa New Zealand's horticulture sector.

"They range from identifying energy-intensive areas of the horticulture value chain and supporting conversion to systems that reduce greenhouse gas emissions, to improving crop management and protection, developing pathways to increase Māori participation, increasing capability, and better understanding consumer needs and channels to market."

Going into 2023, HortNZ's dedicated programme manager will drive the Action Plan forward by finding opportunities within existing frameworks, and bringing together partners to develop new projects.

"We are all vested in the success of the plan and while it will bring challenges, those are challenges we are committed to working through," Damien O'Connor said at last month's launch.

"New Zealand has worked hard to build an excellent brand for quality, and consumers here and around the world continue to demand high quality and nutritious fresh fruit and vegetables to boost their wellbeing.

"By accelerating growth and sustainability in our horticulture sector we can support businesses to grow, create new jobs, lift exports and provide greater domestic food supply."

While the sector is rich in proud, committed growers working in an innovative industry, we cannot rest on our laurels, Nadine said.

"As well as climate change being well and truly here, consumers are invested more than ever in their food, from farm to plate.



The new Horticulture Action Plan sets bold actions and outcomes to maximise value, boost sustainability, increase Māori participation in high-value horticulture, and attract and retain the right people

"It is unlikely our industry's operating environment is going to change, so to work within that, it is critical that we have a plan."

New Zealand has worked hard to build an excellent brand for quality and is fortunate to have one of the best climates and some of the most fertile soil in the world, Damien added.

"The new Horticulture Action Plan sets bold actions and outcomes to maximise value, boost sustainability, increase Māori participation in high-value horticulture, and attract and retain the right people.

"We have the plan, we have the ambition, and we have the support and expertise to ensure the long-term success of our growers, rural communities and New Zealand's economy." ●

GROWING TOGETHER 2035

- The *Aotearoa Horticulture Action Plan* (AHAP) sets up a framework for collaboration across industry, Māori, research providers and government to ensure alignment, leverage activity, and achieve progress through a series of actions for sustainable growth.
- The scope of the plan is “food for people”, covering fresh and processed fruit, vegetables and nuts across the whole supply chain, and both domestic and export markets.
- The plan has three aligned elements: strategy, annual implementation plan and investment roadmap.
- The aim is to double the farm gate value of horticulture production from \$6 billion to \$12 billion by 2035, in a way that improves prosperity while protecting the environment.
- A new governance group will oversee the operation of the plan with a representative from each of the four partners (industry, Māori, research providers and government), along with an independent chair.
- A dedicated programme manager will drive the plan forward by finding opportunities within existing frameworks, and bringing together partners to develop new projects. ●

Outcomes



Grow sustainably: Horticulture is in balance with the environment and lessens climate change



Optimise value: Domestic and export market and consumer needs are understood, and the value chain optimised for demand



Māori are strong in horticulture: Partner with Māori to triple participation in high-value* horticulture



Underpinned by science and knowledge: A strong research and development programme and consideration of Mātauranga Māori enables, accelerates and supports horticulture



Nurture people: Horticulture attracts and retains people, and annual and seasonal workforce needs are met

*Value is defined as high monetary return to growers and/or societal value, e.g. domestic food supply.

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As part of a floor discussion, LeaderBrand founder (now board member) Murray McPhail was passionate about the need to address rising costs, as if consumers were priced out of buying fresh produce, there would be an over-reaching impact on society

CLIMATE, COSTS AND LABOUR TOP LIST OF CONCERNS

When it comes to making lemons into lemonade, who better than a bunch of Kiwi growers?

With time on their hands at the AHAP launch due to the late arrival of Ministers Damien O'Connor and Kiritapu Allan, industry leader Liz Te Amo urged those gathered to voice concerns about issues facing the sector today. So they did.

There were a number of reoccurring themes, from the need to urgently deal with the fall-out from climate change, to the challenges of rising costs across the industry.

For Plant & Food Research senior scientist Bruce Searle, sustainable growing practices are needed to meet the growing climate challenges head-on.

The issue of labour, too, was brought up time and time again, with challenges in both the cost of running a workforce and the difficulty of attracting young people to the industry.

Also raised was:

- The need to ensure regulatory tools (like NZGAP and Freshwater Farm Plans) are properly aligned.
- The challenges faced by smaller growers in an increasingly regulated environment.
- The importance of support for process growers who face competition from international producers who can "import product for less than we can produce it for."

“
It is time to take what we have learned and apply it across the sector

LeaderBrand founder (and now board member) Murray McPhail said it is critical that, when launching initiatives like the Action Plan, thought be given to any unintended consequences.

And he was passionate about the need to address rising costs as, if

consumers are priced out of buying fresh produce, there will be an over-reaching impact on society.

"How do we get people to support the industry, both as consumers and as members of the workforce?" Murray McPhail asked.

"We need more commitment to getting the health message out there so consumers are fully on board."

But the news from the floor wasn't all bad.

Farming general manager Gordon McPhail - also of LeaderBrand - said he was excited for the future of sustainable horticulture, and believes harnessing technology is critical to its success.

And HortNZ engagement and extension manager Kate Longman said work to address some concerns is underway.

"We have invested in learning what is needed, now it is time to take what we have learned and apply it across the sector," she said. ●

THOUGHTS FROM LEADERSHIP

“ Māori are kaitiaki of their whenua, landowners, business owners and leaders in their communities. The Action Plan will support an approach to horticulture for Māori, led by Māori and aligned with the Rautaki mo te Taurikura (Embracing Change for Prosperity) strategy that was launched at the end of last year



Associate Minister of Agriculture, Meka Whaitiri

“ Food security is a growing issue and we want to ensure New Zealanders have access to affordable food. The new Aotearoa Horticulture Action Plan: Growing Together 2035 sets out the pathway to achieve what is an ambitious and achievable goal

Minister of Trade and Agriculture, Damien O'Connor



“ Development of the Action Plan was a collaborative effort between industry, government, science and Māori recognising that, to be successful, we need to work together to make significant and enduring change

HortNZ chief executive, Nadine Tunley



2023 Horticulture New Zealand Director Elections

Calling for Nominations for three Directors

The Horticulture New Zealand constitution provides for a term of three years for elected directors with one third of directors retiring by rotation each year. The following Directors retire by rotation this year.

Kate Trufitt is not offering herself for re-election due to changes in employment.

Tony Howey is retiring having completed 9 years on the board so is unable to re-stand under HortNZ rules.

Hugh Ritchie is retiring by rotation and is offering himself for re-election.

There will be three vacancies to fill.

In accordance with Clause 12 (e) of the Horticulture New Zealand Constitution nominations are now being sought from individual grower members, affiliated Product Groups and affiliated Grower Associations.

Candidates must be nominated by at least two grower members or affiliated organisations.

The election is based on electing the best people for the job with no allocated seats for product, sector or regional representatives.

Candidate criteria

Nominated candidates must be:

- a person who is an active grower member of HortNZ; or
- a director, shareholder, partner or trustee of an active grower member who is appointed by that member as the principal representative of the entity in their dealings with HortNZ; or
- an employee of an active grower member who is appointed by that member as the principal representative of the entity in their dealings with HortNZ.

If more than three (3) candidates are nominated, an election will be held where individual grower members will vote for their preferred candidates. A profile for each candidate will be included with the voting papers distributed to growers.

The nomination form and position description is available on HortNZ's website www.hortnz.co.nz or can be requested from the Board Secretary via email admin@hortnz.co.nz or by phone 0508 467 869.

Nominations close at 5.00pm on Friday 14 April 2023

YOUR INDUSTRY

ACROSS THE SECTOR — ACROSS THE COUNTRY

Promising pears

Page 28





The cyclone caused infrastructure damage which heavily disrupted water supply in the Tairāwhiti area

‘Every day feels like a year’

While some growers lost their land, their crops and their homes, others remained untouched. As KRISTINE WALSH discovers, Cyclone Gabrielle was selective in the damage it did as it swept across the Tairāwhiti Gisborne region.

WEATHER
FEATURE

Just 10 kilometres south of Gisborne city is the bridge that spans the famous Te Arai River, generally regarded as liquid gold for the Manūtūkē growers that operate along its banks.

That was until the early hours of Tuesday 14 February – Valentine’s Day – when it became a poisoned chalice, swelling to a raging torrent, tossing trees like Pick-Up Sticks and cloaking orchards in a sea of silt.

At the start of the riverside Waingake Road at Manūtūkē, plantings of avocado trees sit knee-deep in suffocating silt. A citrus orchard a little further up the line suffered the same fate, while the small township escaped unscathed.

Further still, the river swept across an annual growing operation, inundating the sheds and a car left by the fleeing owner, but somehow, leaving the house untouched.

Back on the main road, Matt Sowerby could hardly believe his luck when he got up early Tuesday morning and saw just a few puddles in his front yard.

As nursery and harvest manager for major local grower Judco, he headed out to inspect damage at blocks he oversees all over the district.

But when driving back past just after 9am, he could see water rising in the back paddock. With the river still raging, there was nowhere else for the stream bordering Matt’s property to go.

A father of five, including eight-month-old twins, he knew he had to move fast to get his wife and children out, while police busted down the front fence to release distressed cattle.

He was the last to leave, kayaking across the front yard to rescue the beloved family dog.



When nursery and harvest manager Matt Sowerby bought his home, near Manutūkē, it had long before been cranked up high to protect it from the flooding that occurred in Cyclone Bola (1988). But just two years later, and with renovations complete, ex-tropical Cyclone Gabrielle showed even that wasn't enough

And the same was happening next door at Judco's nursery and office headquarters.

"The problem was that, the river being what it was, the water couldn't drain so it just sat there for more than 36 hours," Matt says.

"When it finally did drain, we ended up with a metre-and-a-half of silt up to and into the house, which we'd just finished renovating.

"The house was jacked up high after Cyclone Bola to stop this happening, but in this huge event, it just wasn't enough."

While there are growers up the East Coast north of Gisborne, the area is dominated by forestry and sheep and beef farming and was already reeling from multiple events before Cyclone Gabrielle, most recently January's ex-tropical Cyclone Hale.

To say the area was devastated by Gabrielle would be an understatement. But after previous events an enraged community had already mobilised in getting high-level support to confront the forestry debris that had been tearing down their hills, smashing up their homes, roads and bridges.

Inland from Gisborne city, both north (towards the Bay of Plenty) and south (towards Wairoa), is home to the largest concentration of the region's horticulture, and even there effects vary from no impact to total catastrophe.

And halfway between Gisborne and Mātāwai, where the entire community of Te Karaka was evacuated, there was heartbreaking loss of life.

Up to 10 days after Gabrielle began its assault on 13 February the Tairāwhiti Gisborne region was still in a state of "extreme" alert water shortage, with pipelines to the main supply (the Mangapoike Dams) smashed and major faults at the back-up Waipaoa Water Treatment Plant.

And even as it moved towards the lesser "high" alert it was unlikely major processors would be allowed to tap into mains water supplies.

“

The house was jacked up high after Cyclone Bola to stop this happening, but in this huge event, it just wasn't enough

That had a big impact on operators like LeaderBrand which, according to chief executive Richard Burke, was doing well in the face of a range of challenges.

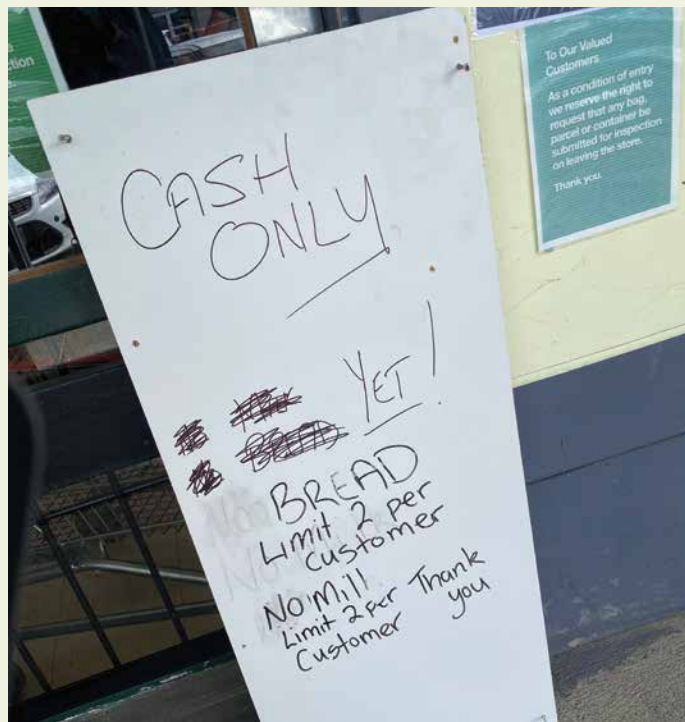
"This first week every day feels like a year, but we've managed to stand up to a whole lot of stuff," he said.

"Having power and being able to get comms on was helpful, but having no water is a big issue that's going to impact on the processing side of the operation."

Richard says the Waipaoa Flood Control Scheme - whereby stopbanks are being raised along the river banks - had helped protect a large portion of the Poverty Bay Flats, where LeaderBrand's Gisborne growing operation is centred.



Although communications were down, some farmers were able to tap into the Starlink connection at Gisborne District Council's offices



No power, no internet, no phones, no eftpos, no bread, no milk. Gisborne's first week after Cyclone Gabrielle was a rough one

"So by day four (17 February) we were able to start harvesting things like fresh lettuce and sweetcorn on blocks that weren't flooded, and by Sunday we were harvesting some of the sauvignon blanc in our vineyards.

"Basically, it's a moving target so we're just piecing things together as we go, focusing in the short term on what has been wiped out, what can be salvaged, and where to go from here."

LeaderBrand had built resilience in its business by establishing farms in other regions, Richard added.

"But we've certainly got a lot to work through, so we're going at it day by day."

Up the road at Kaiaponi Farms, general manager Scott Wilson was juggling the company's own orchards, those it manages for other growers, its major packing facility, and

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TRACTORS & EQUIPMENT



On 13 February a NZ Police car on Waingake Road patrolled the rapidly rising Te Arai River near Manutūkē

the challenges of shipping produce from an area cut off in both directions.

He, too, believed the stopbanks had done their job and protected many growing operations, "so we mostly had to deal with what fell on top of us".

For Kaiaponi's orchards, that was recorded at around 220ml of rain, with most getting through with low levels of loss.

"But we do have growers at the other extreme, mostly in pockets like Waingake and Manutūkē.

“

We've certainly got a lot to work through, so we're going at it day by day

"And of course, many of our staff have issues as well. Many were flooded, some not too much, others right up to having their homes red-stickered."

But those who could be on board were on board, and Scott says his team returned to harvesting apples from selected blocks just two days after the storm.

"Being in the middle of the Gala harvest we couldn't risk those fruit getting over-mature, so we were able to get through and complete most of that and get the packhouse up and running by day seven.

"But with that have come some major logistical challenges, including around getting fruit to market."

Kaiaponi traditionally freights its apples through Napier Port, but with access cut off is instead sending trucks north to Tauranga.

"There will be ongoing challenges with getting packaging supplies in and getting fruit out, and that's going to have an inevitable impact on costs," Scott said.

Overall, there have been bad things: especially in evacuated rural areas, looters came out to play (one pair reportedly earning a "good hiding" from an alert property owner).

“

There will be ongoing challenges with getting packaging supplies in and getting fruit out



And there have been good things: entire teams of gumboot-clad volunteers turning up to help complete strangers dig out tonnes, and tonnes, and tonnes of silt.

But the general feeling is one of gratitude, especially in the light of devastation wreaked on the neighbouring Hawke's Bay region.

Those flooded with water are grateful it's not mud. Those with mud are grateful their houses were spared. Those who lost their homes are grateful loved ones escaped with their lives.

As Scott Wilson said, "even with what we have to deal with here, we look over at places like Hawke's Bay and it makes us feel fortunate."

"Our thoughts are with those severely affected growers, those severely affected people, and what they have to deal with now and into the future."

Meanwhile, a week after Gabrielle blew through town, Matt Sowerby continued with what work he could, even though his own property was munted and he'd crammed his whānau of seven in with an equal number of family members up the road.

"Like many around here, we (Judco) have been both lucky and unlucky," he says.

"On the one hand, we've lost crops, including maize, tomatoes and a paddock of echinacea we were growing for seed export.

"On the other, though the nursery houses were a metre deep in water, they'd been cleared out for new seedlings - which we've been able to get in - so like everybody else we're moving forward as best we can." ●



A digger operator used a spike to windrow debris in the 4ha orchard of Envy™ apples where most of the trees were flattened by flood water and silt

Recovery from devastating floods is possible

Apple orchards can recover from severe floods if they are cleared of silt as soon as possible after the inundation, says Riwaka orchardist Paul Heywood, of Heywood Orchards.

Elaine Fisher

Photos courtesy Paul Heywood

WEATHER
FEATURE

Paul knows this is true because he and his family brought blocks of their orchard back into production from the floods caused by Cyclone Gita in February 2018.

“However, what we experienced was nothing compared to the scale of the devastation Cyclone Gabrielle has caused in the Gisborne and Hawke’s Bay regions. I feel deeply for growers there, especially those who have lost everything. It is heart-wrenching.

“They need all the help and support they can get. Some may be able to recover from this, but I fear others may not. You only grow one apple crop a year and if you can’t harvest and sell it, that is devastating. It’s your only chance to make an income that year.”

In 2018, for two and a half hours, Riwaka experienced a localised cloud burst which brought torrential rain,

causing the nearby Jordan Creek, which had become blocked, to send silt and debris cascading through kiwifruit and apple blocks on the Heywood orchard. The same storm caused severe damage to the Takaka Hill Highway – closing it for a week. It has taken four years to repair both the orchards and road to their original condition.

In one apple block, most trees were flattened but in another, trees were standing in deep silt. “We decided to walk away from the flattened orchard and concentrate on what we could recover,” says Paul.

“Established growers know that the only thing to do with an orchard full of silt is to bring in a good contractor and remove everything straight away. My brother Mike and I set to work to fix the flood damaged blocks, leaving our sons



1 Paul Heywood hired a digger to drag flattened trees, poles, wire and drape into piles on the destroyed Envy™ orchard, 2 A skilled bobcat operator cleared silt and debris into the centre of the laneways, opening access to the trees, 3 Laneways were piled high with silt, mud and forest debris, 4 Debris from around the trees was removed using a digger

Evan and Scott and staff to harvest the apple and kiwifruit crops not affected.

“We were fortunate that we had a very skilled bobcat operator who worked tirelessly to clear silt into the centre of the laneways, giving us access to the trees.”

Fruit above the flood level was harvested where possible, and diggers were brought in to clear silt from around each tree.

“The scion was starting to root and you don’t want that as the rootstock controls the vigour of the trees, so we had to get back to original ground level as quickly as possible.”

The silt also had to be carted away. Although it had come from hillsides covered in native bush, not production forestry, the flood waters washed down all the woody debris from the forest floor together with mud from multiple slips.

Once the 4ha orchard block had been saved, attention turned to the other 4ha block where most of the Envy™ apple trees had been flattened. The orchard was covered in flattened trees, poles, wire and the cloth that trees had been draped with.

“Initially we cut some of the wire, but soon found that was not the best thing to do. We brought in an experienced digger operator who used a spike to windrow the debris. When that was done, I spent days on a hired digger, using the wire to drag trees, posts and drape into piles to be burnt. Undamaged posts were also salvaged.”

The block was replanted, and this season will produce a commercial crop of apples.

The Heywood family also cleared the Jordan Creek, the cause of the flooding to their own and neighbouring properties. “The Tasman District Council had refused to clear the creek, which was overgrown with trees. We had planned to do it ourselves after the apple harvest. Hindsight is wonderful. If we had done it earlier, the flood wouldn’t have been as bad.”

That 2018 flood was just one of many adverse events, including hail, floods and fires, to impact the Heywood family orcharding business which had its beginnings in 1935. That was when Paul and Mike’s parents Arthur and Lilius Heywood, purchased a small block of land to farm fruit and tobacco.

Paul and Mike continued their parents’ tradition when they took over the business in the 1960s, managing the transition from tobacco to kiwifruit and apples. Now with their respective sons Evan and Scott also involved, the orchard business continues to expand.

The unpredictability of orcharding is something growers learn to live with, says Paul. “You never take the good seasons for granted because you know the next one may not be as favourable.”

One way of coping with the stresses of an adverse event is to keep busy. “When our orchard was hit with a cyclonic hailstorm one March in the 1980s, we picked and packed granny smith apples to provide work for our staff, even though it made no economic sense to do so. We felt it was important to keep everyone busy.”

That kind of resolve and resilience Paul believes, is thanks to the fortitude of his parents and grandparents,



5 Some of the estimated 7000 cubic metres of silt and debris which washed into a block of almost ready to harvest apples on the Heywood property in 2018, 6 These trees, buried deep in silt and debris, were saved by clearing away what the flood left behind, 7 & 8 Once this 4ha block was finally cleared of flood damage, replanting began

and is the same strength of character which he sees in intergenerational orcharding families, particularly in the Nelson region.

“We have much to thank our forebears for, as they weathered tough times and taught us how to do the same.”

It’s also the fortitude growers in the Hawke’s Bay, Gisborne, Pukekohe, Dargaville and Bay of Plenty regions, all impacted by Cyclone Gabrielle, will need.

“Damage to your orchard is terrible, but if you have material damage insurance, recovery is a little easier. The important thing is to prioritise what is worth saving and spending money on.

“However, what is so much worse is losing your home and everything in it. I don’t know how I would cope with that. My heart goes out to everyone who has lost their home in these floods.” ●

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Mike Van Workum of Genesis Nurseries, Tarzi® grower Tony Gilbertson and Murray Linnell, who represents the primary distributor, RD8 Fresh Produce

Big, red, sweet and early: Tarzi®

A new sport variety of Royal Gala is coming off the tree and heading for export. It's being released on controlled production using a novel team approach between the variety owner, the nursery, marketer and exporters, reports BONNIE FLAWS.

Editor's note: Although Bonnie wrote this article before Cyclone Gabrielle, she contacted the growers in the week after. One orchard was hit hard, although a solid first pick had been completed. With the clean-up underway, the growers approved publication and are focusing on a positive future.

Sports apples like the Tarzi® are a 'gift from god' - nobody had to do any breeding to come up with this variety that has all the attributes of a good eating apple that will be popular in key global markets.

Hawke's Bay apple growers Tony and Virginia Gilbertson were lucky enough to be the beneficiaries of nature's generosity when this happened to them not once but twice. Previously Tony had found the unique Royal Gala mutation Gilmac, so he knew when he spotted the Tarzi® that it had the potential to be something really special.



It came about after some Galaxy replacement trees put among some old rows of Royal Gala mutated.

Tony was driving a mower between the rows one day in 2010 when he spotted a tree that looked a bit different than the rest.

"Exactly 50 percent of the tree was very dark. It was like you put a razor blade down it. The other side of the tree was Galaxy."

At a field day about a week later, veteran horticultural consultant John Wilton was shown the apple and asked his opinion about whether the

Gilbertsons should take a chance on developing the variety.

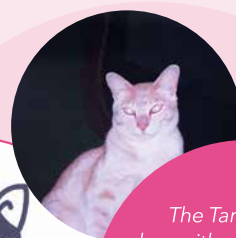
“There were about 15 apples on each side. He turned them all around. In the dark places, they were red right around. When he finished looking he said ‘Tony, you have to give it a go’.”

This opinion was backed up by good friend Andy McGrath of McGrath Nurseries (now Genesis Nurseries), and so the Gilbertsons got the ball rolling.



For years growers have been looking for an apple that is red, big and sweet and early

Some budwood was taken to a nursery to produce 30 trees, and then reselection was done from those, resulting in seven Gen 3 trees. At this point John Wilton was again invited to see the apples, as was Dr Stuart Tustin, a fruit tree physiologist from Plant & Food Research. Both were enthusiastic and encouraged Tony and Andy to keep going. Selection has now been progressed to Gen 7.



The Tarzi® apple box with a photo of the Gilbertsons' cat Tarzi (now passed away) - named after the legendary Italian race car driver Tazio Nuvolari

In 2014 a Plant Variety Right (PVR) was filed for Virmac, the registered name of the variety. Plant & Food Research did assessments over a couple of years for different characteristics. The variety was shown to be unique and was subsequently issued with a PVR in 2020.

The apple is a bright to dark red, a large sweet apple with the red colour covering the entire surface of the fruit, into the calyx. The flesh is bright-green-white, with a fine texture and provides a crisp eating experience. It has slightly more



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The apple is a bright to dark red, a large sweet apple with the red colour covering the entire surface of the fruit

acid than a Royal Gala, but this dissipates over time in storage. It bleeds slightly from the skin into the flesh.

Murray Linnell who represents the primary distributor, RD8 Fresh Produce, as well as the varietal rights owner Global Plant Variety Administration, said that while Tarzi® has global appeal it is targeted to the Asian market. Graphics and branding have been developed with that in mind. Plus there was a good story to tell about how the apple got its name.

Tony has a love of both motor sports and Burmese cats. The Gilbertsons' cat Tarzi® (now passed away) was named after Tazio Nuvolari, the legendary Italian race car driver because he shared the characteristics of being small but very brave.

And because the new apple had strong and unique characteristics – despite that fact it isn't small at all – Tony thought the moniker fitting. The trade name was decided and the logo itself is a cat wearing racing goggles and a cloth cap like the one Tazio Nuvolari wore in the 1930s.

Managed production for small growers

The set-up is that Tony and Ginny own the variety, Global Plant Variety Administration has the commercialisation rights, RD8 Fresh Produce has the primary distribution, while Genesis has propagation rights.

"It's probably more of a family approach rather than a commercial one," Murray says.

Mike Van Workum of Genesis Nurseries agreed. "This is a variety that can support the New Zealand apple industry as individual grower operations. The bigger players, the bigger corporates will only farm something they have total control of. But this is something I will supply to a bunch of family growers who are passionate about growing fruit. But they might have 40ha not 100ha.

"I'm here to help the poor grower that needs to get rid of old Royal Gala, Braeburn and Fuji, and I've got a great opportunity with a beautiful apple so they can kickstart their cashflow," he says.

"For years growers have been looking for an apple that is red, big and sweet and early."

Tarzi® is a replacement for the Royal Gala strains that have reverted to a more dull, stripey colour, which can create headaches for the growers, he said.



Plantings

Licensing to small family operations is how Tony and Ginny want to keep it.

Most of the Tarzi® orchards are in Hawke’s Bay (about 36 percent) and Gisborne (33 percent), with iwi development currently 32 percent of the total. Wi Pere Trust in Gisborne has 18 percent, while Ngāti Pāhauwera in Tangoio has 14 percent. There are also new plantings in Nelson and Ashburton, about 30 percent of the total.

Wi Pere Trust has plans for a second stage of planting this winter, which will make them the largest grower, Murray says.

“This is something I will supply to a bunch of family growers who are passionate about growing fruit

“Given the success that Ngāti Pāhauwera have had this season I expect they will follow suit.”

As well as the variety’s deep red colour, which it achieves even in the shade, it is naturally earlier than other varieties.

There is no requirement for dormancy breakers. The work has been done to ensure that it will ripen to predictable parameters, and growers have a technical toolbox to work with as the volume builds.

“We’re getting very good early feedback in the markets that we’ve targeted, but we are steady as she goes. We’ll take a staged approach [to expanding plantings],” Murray says. ●

- ✓ A replacement for the Royal Gala strains that have reverted to a more dull, stripey colour
- ✓ A deep red colour, which it achieves even in the shade
- ✓ No requirement for dormancy breakers
- ✓ Naturally earlier than other varieties

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MOVING THE WORLD, TOGETHER.



Echodale's operations and production manager Justin Wehner focuses on soil health for a healthy pear tree

Forging a career in pears

Production levels and lack of research make pears a challenging business for young Kiwi leaders. However, the world is changing. New environmentally friendly methods offer fresh opportunities.

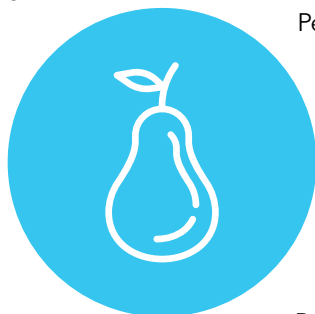
Anne Hardie

Not many young Kiwis forge a career in the pear industry, but at 26, Justin Wehner is the operations and production manager on a 50-hectare orchard in Tasman that grows mostly pears.

This is Justin's second year in the role at Echodale Orchard, which is a fifth-generation orchard based on the edge of Richmond. The orchard spreads out over several blocks on the Waimea Plains and five years ago expanded to the Motueka Valley where 23ha is being planted solely in pears.

Justin's introduction to horticulture began as a contract picker on Echodale Orchard to earn money to travel overseas. When he left, he was told there was a job to come back to after his travel stint. At that stage he had his sights set on becoming a vet, and it was not until he was studying that the orchard lured him back.

Instead of veterinary science, he headed to Lincoln with the support of Echodale to study horticulture science at Lincoln University, before taking up the assistant manager role for a year and then the next step to operations and production manager.



Pears remain the focus of the business. While other growers have stopped growing pears, Echodale is expanding production for the local market under its Nelson Fresh brand. Among the better-known varieties of Taylor's Gold, Williams' Bon Crétien, Beurre Bosc, Winter Nelis and Packham's Triumph, grow Tosca, Morettini and Carmen. Justin says they are not convinced to include Piqa® Boo as a variety just yet as they believe it is a work in progress.

Among their pear varieties, Taylor's Gold may be the most popular among customers, but Justin says it is the hardest

to grow due to stubby stalks puncturing the softer fruit. For that reason, they pick Taylor's Gold from a platform where they place the fruit on a conveyor belt to the bin to handle it as little as possible.

“
The world is changing and people want to know what they're eating and how it is grown

One of the biggest challenges for pear growers, says Justin, is the lack of research and new developments - which is not likely to improve as pear production around the country decreases. With little research, orchardists don't have the option that apples have, of dwarf rootstocks, and consequently the pear trees keep growing.

“It means you have to be a lot more knowledgeable about how you manage your main tasks like pruning and tree training. The lack of research also means the health benefits are unknown - they are higher in fibre, iron, calcium, magnesium and zinc than apples, and have less sugar.”

The orchard represents decades of pear management, with some of the large, older trees still producing alongside T trellis and 2D systems that are now 2600 trees per hectare. At the new Motueka Valley block, the first trees were planted on T trellis and now they are all 2D for increased efficiencies and to be labour friendly.



Justin Wehner says the lack of research is a challenge for growing pears

Pears are still considerably lower in production than the apples in the orchard, which make up 15 percent of the mix. Whereas apples produce at least 100 tonnes of fruit per hectare, the pears deliver between 40 and 80 tonnes per hectare, which again reflects the lack of research put into pears.

Pears have their own challenges as well. It has been a humid summer in Tasman and that is the perfect environment for fireblight in pears, which needs to be constantly monitored and managed. It follows the orchard's highest recorded rainfall last year combined with warmer winters.

“You do your best to cut the fireblight out and get rid of it, but you need a cold winter to shut the disease down, and winters are getting warmer. So my team needs to stay on top of it.”

This year Justin has spent more time training staff to identify fireblight early, with a specialised team removing diseased wood and often entire trees to keep the disease under control.

“Once it's in the trunk, cut the tree out.”

The trees are healthy though, and Justin says tree removal and constant observation is their best management tool to fight fireblight. Good tree health, he says, is the same as good human health which means you are less likely to get sick.

He focuses on soil health and spreads bought-in composts through the orchard at the beginning of winter, giving it time to break down so it is readily available when the trees wake up in spring.

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Bunches of Beurre Bosc



Packham's Triumph pears are one of the first varieties to harvest

"We're reducing herbicides, concentrating on compost and treating the soil as the first building block to a healthy orchard. To me, the future is looking after the soil and the key to longevity and productivity of a tree."

Compost has been spread for three winters and Justin says the crop and soil layers seem to be improving and they can crop the trees a bit harder. It is a work in progress and he says they are still fine-tuning thinning to achieve the right balance. As well as reducing herbicides, they are reducing agrichemicals.

"The world is changing and people want to know what they're eating and how it is grown, so I think agrichemicals will be phased out or have limited use by 2030, and I don't think we will be able to use herbicides such as glyphosate either.

"We're trialling new ways of growing a more environmentally-friendly crop."

Technology such as robotics is a necessary part of horticulture's evolution, to overcome the cost of labour and the challenge of sourcing enough people.

"Finding workers is a struggle and Kiwis don't want to do it. Robotic pickers will be the future and in 20 years you will control everything from the office."

Despite the labour challenges, the orchard has the advantage of beginning its pear harvest earlier than apples, and that gives it a head start finding pickers. The pear harvest kicks in with the early varieties from mid-January and the orchard gets a mix of Kiwis and

backpackers. Though backpacker numbers are still low this year, the orchard had staff sorted in time to pick the pears - a fruit that carries a bit of weight.

“
Robotic pickers will be the future and in 20 years you will control everything from the office

"Pears are a lot heavier than apples - a bin of apples weighs about 380kg compared with a bin of pears which weighs about 450kg. Contract pickers start with the heavier pears and go to apples, and so they end up picking very well with apples."

The orchard has customised its packhouse for pears, enabling the fruit to flow from the trees to the packhouse to retail. Using controlled atmosphere storage on the orchard and in nearby Richmond enables the business to sell pears 12 months of the year.

"When you see pears in shops around here, they're probably ours."

Pears have sometimes lacked the popularity of apples, and have generally been bought by the older generation. But Justin says younger people seem to be increasingly seeking out pears, which he says may be attributed to culinary shows using pears creatively, and also the health benefits from the fruit. ●



Kris Robb amongst the first of the cherries in early December 2022

Quality not quantity drives Chinese New Year cherry exports

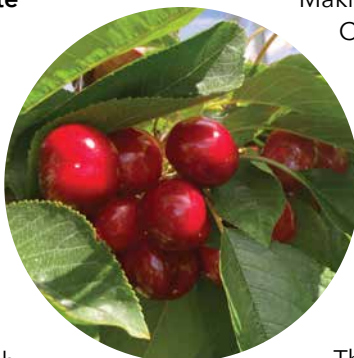
Central Otago cherries had a late start this season with cooler weather in December, but despite the smaller volume overall, many growers are happy with the quality of their fruit.

Aimee Wilson

An earlier than usual Chinese New Year in late January also put pressure on many growers exporting to Asian markets, but the sun shone plenty after Christmas providing a welcome relief.

Suncrest Orchards co-owner Michael Jones of Cromwell, said the major snow event in October possibly had a bigger impact on fruit yield than initially realised.

Kicking off the season on 12 December, he said the weather was quite disappointing, with overcast days and many days of rain.



Making the decision to can the traditional Christmas mail orders due to increased freight costs and inconsistencies with couriers, meant they were able to just focus on the export market instead this year.

The Chinese New Year celebrations started on 22 January, but backlogs as the fruit tried to clear customs meant that some cherries had to be sent to other destinations in Asia instead during this time.

The New Zealand industry consists of more than 1000 hectares of plantings, with the majority



Michael Jones of Suncrest Orchard amongst the first plantings of pergola-grown cherries

“ You have to be a realist when you’re a fruitgrower and you just hope some of these things line up

of these in the Central Otago region. This compares to more than 2500ha of plantings in Australia.

But New Zealand’s reputation for producing quality cherries means our cherries attract some of the highest prices in the world.

Cherries from New Zealand are predominantly bought as a luxury gift in celebration of the Chinese New Year, with the largest export volumes going to Taiwan, China, Vietnam and Thailand. Cherries are also exported to a lot of other countries as well.

“ We weren’t in the game for growing commodity fruit... The New Zealand brand has to concentrate on that high-end market

Michael said he was pleased that in early January the weather improved “and there were days and days of sun, so the fruit dried off a bit and the fruit quality improved.”

Unsurprisingly the size of the fruit was also up this year, but crop volumes were not high for the second year in a row.

“The last four to five years have been difficult for the cherry industry. There have been a lot of plantings but not a dramatic increase in production.”

Always an optimist, Michael said the value of the New Zealand dollar also being down on last year had helped a bit, as did having a stronger labour market post Covid-19.

“The weather always has a dramatic impact. Whether it’s frost or rain, but that’s just fruit growing... You have to be a realist when you’re a fruitgrower and you just hope some of these things line up. But nothing’s ever perfect.”

In another positive, Suncrest harvested its first season of pergola-grown cherries of both the Starletta™ and Folfer varieties, and the quality was good.

Michael said it is still early days as the trees are only three years old, with just over 1ha of fruit harvested this season and a further two x 1 ha blocks also newly planted as well.

The bonus of pergola-grown fruit is quicker production and more consistent yields.

Growing part of a range of branded export cherries, including Lani™ and Starletta, the Jones’ family orchard has been in operation since the 1980s, and also still grows Burlatt, Dawson, Summit, Sam, Lapins, Sweetheart, Rainier, Bing, Modesto, Staccato, Regina, Kordia, Sonnet and Santana varieties.

Down the road at Clyde Orchards, the exclusively grown Picnic cherries are some of the first export variety to hit the overseas market out of Central Otago, in early December.

Grown under cover in Cravo houses, orchard manager Kris Robb said although their overall volume was slightly down, the fruit quality was better than last year.

“We set a goal last year that we were prepared to sacrifice fruit volume for quality. We weren’t in the game for growing commodity fruit. But it takes time and sacrifice, and the New Zealand brand has to concentrate on that high-end market.”



Roxburgh grower Gary Bennetts (left) received a life membership from Summerfruit NZ in June 2021

He said costs are just too high to concentrate on the mid-range market, "you have to get up into that 30 millimetre fruit size," and the Asian market is looking for large, firm fruit.

Having a strong team of both full-time and casual workers, and good relationships with industry partners in New Zealand and overseas, are also important.

From the trucking freight logistics right through to Taiwan where they have a strong brand, it all helps to make the season successful.

"Overall, we've had a positive cherry season."

Roxburgh grower Gary Bennetts said the weather had been "reasonably kind" to them in the Teviot Valley this season, and they had managed to harvest some good fruit.

"The fruit hasn't got away on us, and we haven't had too much in terms of rain events."

The New Zealand Orchard Direct business grows six varieties of cherry under an 'Integrated Fruit Production' system, that uses minimal spray.


He said the main problem this year was the timing of the fruit, being cooler in November and December; and getting enough export cherries away for the Chinese New Year.

Gary's Roxburgh business doesn't grow any of the early varieties, and instead starts exporting after Christmas, but he said ongoing rising costs means the market is not as easy as it used to be.

"Costs are horrific. If you're not earning those export dollars, you're struggling to get those costs back out of the market," he said.

New Zealand cherry exports have fallen in recent years due to La Niña weather conditions and logistical issues linked to the Covid-19 pandemic.

Over the next few years growing conditions should become more favourable as La Niña comes to an end in early 2023, and it is expected that the New Zealand cherry production and export volumes will start to improve. ●




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Jan and Lawrie Cooke as featured in the April 2013 issue of The Orchardist

Plantsman Lawrie Cooke remembered for his contribution to New Zealand horticulture

Lawrence E. Cooke (91 years)

Bonnie Flaws

Hastings nurseryman Lawrence E. Cooke, who founded one of the oldest surviving fruit tree nurseries still in operation, passed away on 15 October 2022 at the age of 91.

His father was a builder and Lawrie, as he was known, helped his mother cultivate a huge house section where they grew lots of vegetables. He was only about six years old at the time, so perhaps this was where he developed his 'green fingers'!

He did have an interest in farming, but when the high school career's adviser told him about an apprenticeship that was going at Wilson's Nurseries in Pakowhai Road, Lawrie commenced a four-year apprenticeship with Donald Wilson, at the age of 19. He became a proficient budder, training in both fruit trees and ornamentals.

His starting wage was two pounds, three shillings and

fourpence a week and he broke three chop hoe handles on his first day. His only other horticultural qualification was a two-week nursery apprenticeship course at Massey University.

After his apprenticeship he worked for a berryfruit and rose grower Ian Tustin for two years before going out on his own. L. E. Cooke Nurseryman Ltd was established in 1956, first growing asparagus plants and roses (until the mid-1970s), as well as stonefruit trees.

Later he grew apple trees, which over time became a large part of the nursery's business. Lawrie took an interest in sports of apple varieties, including Galaxy, Mawfu and Lady in Red, and moved to increase stocks of such trees quickly. He leased many blocks of land over the years for apple tree propagation.



He met his future wife, Jan, in 1959 and they were married in 1963. The hard-working couple ran the nursery together for decades, working side-by-side, often until late in the evening. He was proud of the quality of his plants and would never send out lesser quality trees to clients.

“

A reserve and playground with a horticultural theme in Frimley, close to the spot where he started his nursery, has been named The Lawrie Cooke Reserve in his honour

Lawrie and Jan lived in Frimley, Hastings for nine years before moving to 14 acres on Wilson Road, which was their home for 45 years and remained the nursery base until 2012. A further 18 acres was purchased in Lyndhurst Road, Frimley in 1985. Half of this block, under Lawrie's management, was planted in Golden Queen peaches and the fruit sold to Wattie's for canning, while the other half was planted in nursery trees.

Lawrie's nursery business grew apples, apricots, cherries, nectarines, peaches, pears and plums for orchardists, as well as catering to the home gardener in addition to a large number of garden centres, that continue to be a big part of the nursery's clientele. In earlier years they also

grew various vegetable crops for the produce markets. What stands the nursery apart from competitors even now is the wide range of varieties they grow.

He was also involved in training young horticulturalists through his role as chairman of the Hawke's Bay Cadet Scheme, and for a number of years Lawrie was a member of the Horticultural Advisory Group at the Eastern Institute of Technology.

Lawrie was involved throughout his career with industry bodies. He was a Life Member of Summerfruit NZ and Hawke's Bay Fruitgrowers' Association and the chairman of the National Fruit Tree Growers Group. His efforts were recognised when he became the recipient of the Gold Award from the Fruit Industry Plant Improvement Agency for his outstanding contribution to the industry.

Lawrie and Jan retired in 2012 after running the nursery together for decades, and their son Martin and daughter-in-law Kelli took over. Lawrie worked until age 80. The couple moved to a retirement village in Havelock North in 2017.

The nursery has been operating now for 66 years and has retained its original name. A reserve and playground with a horticultural theme in Frimley, close to the spot where he started his nursery, has been named The Lawrie Cooke Reserve in his honour.

Lawrie is survived by his wife Jan, son Martin, daughters Margot and Lisa and grandchildren Greer, Blair, Ophelia and Ella. ●



Papaya growing under cover in the Waipū orchard

Promising papaya potential for the north

In the Northland region of New Zealand, Sara Bennett and Andrew Withell are growing subtropical fruit for the Kiwi market using sustainable principles. HELENA O'NEILL talks to the couple about their journey from a subtropical nursery to selling fruit under their own brand, Aotearoa Grown.

Sara and Andrew's journey with tropical fruit began with Subtropicals Aotearoa, a subtropical plant nursery. They specialise in edible subtropical fruit trees, a wide range of edible bananas and some rare and hard-to-find collectors' plants.

Sara says their philosophy is to sell people plants where we grow them as well, where we have learned what they require to grow in Aotearoa.

"We learn by doing, share our learnings, and we're frank and honest with people about what they need to grow."

Starting with bananas, the couple have now planted papaya, jackfruit, starfruit (carambola),

chocolate (black) sapote, yangmei, mombin, rollinia, finger limes, sapodilla, cinnamon and at least six different types of tropical passionfruit.



"Bananas are a good place to start because they are relatively easy to source and there are other growers around," Andrew says.

"I think there are varieties like Misi Luki that are suited to this country; they grow well here. We've sourced more and more different varieties, and we've been trialling them to see how they grow outside but also under cover. We have about 40 to 50 varieties that we are just watching and seeing how they grow and what the fruit tastes like."



"The weather has been very tropical." Subtropicals Aotearoa's plantings outside cover about half of their property

He says that while a lot of New Zealanders are used to Cavendish bananas, many of the varieties they grow are a lot sweeter.

"Everyone has a different preference, but we think the Goldfinger is probably the best. It's a Honduran hybrid, slower growing but it's very sweet and tangy."

Sara adds: "The pineapple Ladyfinger tastes like pineapple lumps without the chocolate. It does depend on where you come from, if you've had an experience growing up with a particular banana then it's very exciting when you can grow it here."

Sara and Andrew sell at the monthly Roving Rural Market at Waipū and recently began running a stall at the Grey Lynn Farmers' Market in Auckland.

Selling tropical fruit at farmers' markets was really rewarding as people would be excited to find exotic fruit and favourites from their homelands, she says.

“

We've been pretty stunned to have people coming back week after week and selling out each time

"We had an amazing conversation with a guy who said that he had dreamt of making a traditional plantain dish for his girlfriend as a special treat. He had no idea where he

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Sara and Andrew started out growing bananas before venturing into more exotic tropical fruit

was going to get one, but that week we had plantain for sale and so he was thrilled to be able to find some. That was lovely.”

The couple decided to create their own brand, Aotearoa Grown, to sell their own produce along with tropical fruit from other like-minded growers.

“We knew that there was a national market and we as a sole grower couldn’t meet the national market. So we developed a brand and a box to ship tropical fruit in. We work with other growers to supply fruit to us and we ship the fruit.”

With the courier network being under pressure in recent months, the couple have paused online orders, but plan to restart once challenges have been resolved.

“

Tropical fruits are so good for you. Take papaya, for example, it’s a superfood

There is also growing demand from local and Auckland restaurants for New Zealand-grown tropical fruit. The tropical fruit industry is still growing and is full of potential, Andrew says.

“There’s a great little network of growers now.”

With a wide range of subtropical fruit growing in their orchard, they have great hopes for New Zealand-grown papaya.

“We’re the first to grow papaya on a commercial scale, and we’ve been pretty stunned to have people coming back week after week and selling out each time,” he says.

“This is our first large papaya crop. We grow them under cover in large commercial tunnel houses and we’re quadrupling our production for next year. It’s really exciting, and there are different varieties that we’re experimenting with.”

While the couple have no formal background in horticulture, Sara says they have been growing plants all their lives.

“We’ve come from families who have grown food on a non-commercial basis and had big, interesting gardens. We bought a small lifestyle block and started experimenting with what we could grow. We love subtropical fruit... and then it evolved over time. It started mostly in bananas, but we were interested in diversity and working with nature.”

They incorporate syntropic and permaculture principles in their orchard and believe in feeding the soil to create the best food for people.

“We looked at what we could grow that would be climate-change resilient, that would grow food in this environment, and grow in ways that the inputs were minimal. We’ve become a sustainable system over time.”

All fruit is picked and washed by hand, and Sara describes the business as a low-tech operation. About one hectare of their Waipū property is planted, half growing under cover in six-metre-long high tunnels and half growing outside.

With recent cyclones hammering parts of the country, Sara is glad they chose to use tunnel houses for a large portion of their crops.

“The weather has been very tropical. Other than the wind, the bananas love the heat and the water. Tunnel house growing is very important I think, because other than the wind you can rest easy that everything is safe and secure in this weather.”

Sara says the tunnel houses are open and diverse ecosystems.

“The insects and quails come in and out; the pheasants thought we had built a giant pheasant house. It’s an open, dynamic system. The breeze comes through, the rain comes in the sides, and it’s a diverse and vibrant ecosystem. Within these covered systems we have diverse plantings, we don’t mono-crop and we have grass growing on the ground.

“

We’re quadrupling our production for next year. It’s really exciting

“Some tropical fruits need a dry season to set and hold fruit - too much cold rain and they would get crown rot and die. The papaya, for example, would rot and die without a cover,” she says.

Bacterial crown rot (BCR) is considered one of the most important diseases affecting papaya. First reported in Java in 1931, the disease, which is caused by the bacterium *Erwinia papayae* has spread to many of the major papaya-growing countries of the world.

“One of the advantages of diverse plantings is that they work well and support each other. Things like bananas don’t really have pests in this country so you don’t need to spray at all,” Andrew says.

They plant and grow what they sell, and plants that they don’t grow from seed themselves are sourced from other growers who share their values and approaches.

As the couple expand their growing area, Sara hopes more people will include New Zealand-grown tropical fruit in their diets.

“Tropical fruits are so good for you. Take papaya, for example, it’s a superfood, really good for gut health, has a low to moderate glycaemic index (GI) which is great for weight loss, and it’s an amazing first food for babies. It’s really high in vitamin C too.

“Demand for New Zealand-grown fruit and produce is really strong. Consumers are becoming more educated about the value of locally-grown produce, and the values associated with it. The demand for each fruit is pretty strong across the board,” Sara says. “We’re great believers in Northland as a tropical fruit-growing region. It certainly has a lot of potential.” ●

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jackfruit



starfruit (carambola)



chocolate (black) sapote



yangmei



mombin



rollinia



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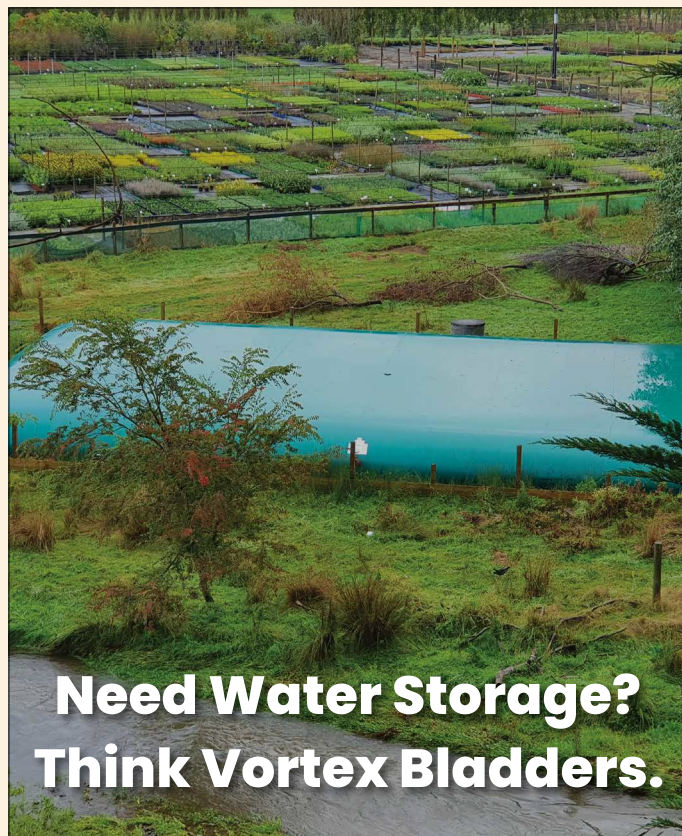
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Basil and his wife Lois

Seasonal Solutions pioneer remembered

Basil Arthur Goodman (83 years)

Aimee Wilson

Born in Motueka and married to Lois for 60 years this year, Basil Goodman knew how to grow things - not just fruit and vegetables, but successful companies as well.

His first introduction to the horticulture industry started when he left school at just 16, firstly picking tomatoes and then pruning fruit trees in the weekends.

Many will remember him as the leading pioneer in the Recognised Seasonal Employer (RSE) scheme, where he was instrumental in the initial pilot in 2006, and then became the founding chairman of the Seasonal Solutions cooperative, serving for more than 11 years as board chair. In that time, Basil was responsible for growing Seasonal Solutions into the successful cooperative it is today.

When it first started, just 45 men came from Vanuatu

to Hawke's Bay and Central Otago. One of the original orchard workers spoke at his funeral with much admiration for Basil, and along with three others, sang and shared a beautiful heartfelt song.

A man with a big personality who had time for everyone, he was also known as a tough lobbyist with strong links to government, who always got stuff done.



Chair of Summerfruit New Zealand from 2000 to 2008 and on the Summerfruit Exporters Committee, he was also a board member of the New Zealand Horticulture Export Authority and became a successful director of MG Marketing - the largest wholesaler in New Zealand.

In 2010 he was awarded the Bledisloe Cup for his outstanding contribution to the horticulture industry.



“

Tim described Basil as “a man you always wanted on your side”

Basil with Tim Jones from Molyneux Orchards (now 45South) back in the 1990s

A much-loved father of Michelle and Julie and father-in-law of Michael, cherished Poppa of Lillian and Sam, Dorothy and Katie, Henry, Lauren and Ben, Callum and Kophie, and George, and adored great-grandfather of Poppy, Basil was described by his family as someone who saw potential in everything.

Moving his young family from Nelson to Balclutha and then on to Central Otago in the 1970s, he first started working for established pipfruit grower Con van der Voort in Ettrick, where he stayed for six years.

Con spoke at his funeral and said he knew back then Basil would go places. He “came to my notice very quickly as a leader. He didn’t stand fools,” he said.

The men had a lot of fun, but admittedly with two strong personalities in the mix, there were a few disagreements too. Con talked about the day a big sack of oysters arrived, but nobody had a clue how to open them.

Con said it took them two to three hours to work it out, but Basil was such an innovative person, “and everything he touched he was a winner.”

“It was a sad day when Basil left me, but I understood because he was capable of so many things.”

He went on to become the manager of Bengier Packers, and then moved back to Nelson with a job for Dalgetys.

When Basil arrived back in the South he moved up to Cromwell to help manage and restructure the Molyneux Orchards - building the company to become one of the largest in Central Otago - and most successful at growing summerfruit.

There would be trips to China and Taiwan to ‘fly the flag’ for Central Otago cherries.

Now known as 45South, New Zealand’s largest exporter of cherries, the company’s chief executive Tim Jones also spoke at his funeral, having known Basil since the mid-1990s when Tim first came looking for a job.

Tim said Basil took a punt on him “and sent me off with the local ladies to work on me.”

With little industry experience and having never seen an apricot, peach or a cherry growing on a tree, Tim said there was only one block of Dawson cherries on the orchard when he first started, along with some plums, and even nashi pears.

With new cherry varieties such as Stella, Lapin and Sweetheart coming onto the market, Basil had a vision that the export cherry would be as big as the apricot, peach and nectarine.

He removed all the old trees and planted new ones. Molyneux Orchards went on to produce 500 tonnes one season, which was big back then, and Tim described how basic the technology was.

“We used to just tip all of the cherries onto the conveyor and look for the large ones.”

With export cherries on the rise and a huge worker shortage, Tim says he remembers Basil telling him, “if people walk in the door give them a job or the fruit will fall to the ground.”

This included a man with just one functioning arm who had a hook on the other hand.



“

Basil was described by his family as someone who saw potential in everything

Five thousand workers were needed as the plantings increased. “At the time we were struggling to attract a few hundred university students,” Tim said.

Then in 2004 Seasonal Solutions was born, as a pilot scheme with \$100,000 in funding and 58 shareholders.

This season 45South has produced 2000 tonnes of export cherries - through a fully automated packhouse where every single cherry is photographed and sized.

“There have been times that the industry has been on its knees, but he has driven it to new levels of excellence,” Tim said.

“Basil brought a disjointed Summerfruit New Zealand industry back to life.”

This was a man you always wanted on your side, he added.

Involved in many other big roles in the community, including the Cromwell Rotary that was responsible for the town’s iconic big fruit sculpture, he was president in 1988 and 1989.

He and wife Lois also ran a successful cat breeding business Bengier Cattery, and made the Top 10 in New Zealand three years in a row. At one stage they owned a café and Basil’s love of food had his grandchildren competing for the best recipes to impress him.

When working as an agent for Dalgetys and out on the road, Basil always knew where to call in for the best morning and afternoon teas.

His neighbour of 40 years and funeral celebrant Christine Hansen said Basil was always in his garden. Christine had an aviary and Basil and Lois had many cats, so you would

think there would be issues. But despite the risk to the birds, Christine came to adopt one of his cats who obviously took more of a liking to her property.

A strong advocate in the fruit growing industry and in the community, she said he was more often asking for forgiveness than permission, but it was his huge personality that made him shine.

Another former neighbour of 19 years, and Central Otago Deputy Mayor Neil Gillespie described him as monumental, “like a mighty Totara that has fallen,” because of the huge contribution he made to fruit growing and the local workforce in particular.

“He was a really special person and meant a lot to our family. And he always threw the balls back,” he joked.

Never without a smile on his face, Basil, aka Baz to friends and family, certainly marked his leadership with plenty of humour, even back in the early days as scout leader at Millers Flat.

Known as a bit of a trickster, there was the time he encouraged the young guys on camp to nail all of the girls’ shoes to the floor and add cleaning sponges to the lamingtons.

He was a man who could smell the rain and knew where there was going to be a frost, and his grandchildren talked fondly of their love of gardening and growing vegetables, thanks to Poppa.

“You were a good man Basil Goodman. A good man,” his son-in-law Michael McHugh said at the end of his tribute at the funeral. ●



Three new dragon fruit varieties are being trialled in Kerikeri

Growing potential for dragon fruit

A breeding programme partnership between New Zealand and Vietnam is developing new varieties of dragon fruit which could open up new opportunities for Northland's growers.

Helena O'Neill

Images supplied by Plant & Food Research

The varieties are believed to be the first canker-tolerant dragon fruit to be commercialised. Canker is a highly destructive disease, killing plants and causing visible damage to fruit.

Plant & Food Research Ltd (PFR) in New Zealand and the Southern Horticultural Research Institute (SOFRI) in Vietnam have been working together since 2013 to breed new varieties of dragon fruit with excellent grower and consumer characteristics.

VentureFruit, T&G Global's IP management and commercialisation company, has joined the partnership securing exclusive global commercialisation rights to the first three varieties from the programme.

Initially, the new varieties will be commercially developed in Vietnam for export markets. Evaluation trials are planned in other potential production regions, including an ongoing trial at PFR's Kerikeri Research Centre in the sub-tropical northern region of New Zealand.

PFR's lead breeder on the project, Dr Satish Kumar, says the varieties are being evaluated in Kerikeri to determine the climatic adaptation and economic feasibility of growing these varieties in New Zealand.

"The trial started just over two years ago, and the plants have started flowering and fruiting this summer.





The knowledge generated from this trial over the next couple of years would guide the successful commercial production of dragon fruit in Northland."

“

The trial started just over two years ago, and the plants have started flowering and fruiting this summer

He says there are several challenges facing dragon fruit crops in Northland, including whether there are sufficient heat units for them to grow, the potential for wet and cold winters, their susceptibility to frost, and whether pollination is successful.

All three new varieties are red-skinned, with a sweeter, more aromatic flavour than current varieties, and with a crisp dense texture. The varieties vary in flesh colour, one with the traditional white flesh most commonly seen, a unique pink-fleshed variety, and a dark, appealing red-fleshed variety.

The variety denominations are DF2 (red flesh), DF14 (white flesh), and DF16 (pink flesh), and all three are soon to be launched into the global marketplace. Fruit from the new varieties is expected to be available to consumers in 2027, with a target of 250 hectares total planted by 2030.

Vietnam is the largest dragon fruit supplier in the world and the fruit is highly sought after by Asian consumers,

despite being native to Central and South America where it is known as pitaya. Vietnam produces around one million tonnes of dragon fruit a year, and increased its production area from 10,000ha in 2010 to more than 50,000ha by 2018.

Crops are grown outside, and part of the project involves working with growers to introduce a practice whereby dragon fruit is grown in a T-Bar trellis system as opposed to the traditional 'mop-top' canopy, Satish says.

"The T-Bar system improves yield and plant management with spray application for example."

The new varieties have been developed as part of the New Premium Fruit Variety Development project, supported from 2013 to 2021 with funding from the New Zealand Ministry of Foreign Affairs and Trade. The collaboration between PFR, SOFRI and Sub-Institute for Agricultural Engineering and Postharvest Technology (SIAEP) focused on breeding new varieties and improving fruit quality through new growing practices, postharvest handling and storage technologies to better meet overseas market requirements.

The breeding programme is now funded by PFR as one of its technology development missions.

VentureFruit's general manager Morgan Rogers says the launch of the new varieties is an example of the close horticultural ties between New Zealand and Vietnam.

"These new varieties demonstrate a strategic and innovative approach between all partners involved to create new dragon fruit genetics that taste better and



deliver huge grower benefits in terms of canker tolerance.”

Morgan says they are looking forward to working with Vietnamese growers and sharing the knowledge and techniques developed by SOFRI and PFR on growing systems.

“This allows for these unique new dragon fruit varieties to be grown optimally to achieve higher yields, as well as improving production and providing higher returns for growers.”

PFR chief executive officer David Hughes says the launch of the new varieties shows the impact possible through a successful international development programme.

“

The launch of these new varieties also demonstrates that these programmes can have a big impact not only at a regional level but also internationally

“Being able to support people through international development programmes is really rewarding for our scientists, as they can see how their knowledge can directly impact the lives of individuals. However, the launch of these new varieties also demonstrates that these programmes can have a big impact not only at a regional level but also internationally, building networks and skills to transform sectors.” ●



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Exporting good health made with New Zealand ultraviolet light

Geoff Lewis

Auckland-based Anagenix is a global ingredient supplier for functional food, supplement and nutraceutical producers, and an example of the added-value and further processing opportunities drawn from New Zealand horticultural industries.

Established in 2011, Anagenix has a staff of 25 with five scientists, four of whom hold PhDs. It provides a commercialisation link between New Zealand plant science and international food-supplement producers.

Managing director Chris Johnson is an experienced investor and business advisor in the nutraceutical ingredients market. Before joining Anagenix, he assisted a number of New Zealand businesses to successfully export premium gourmet foods to the United States and the United Kingdom.

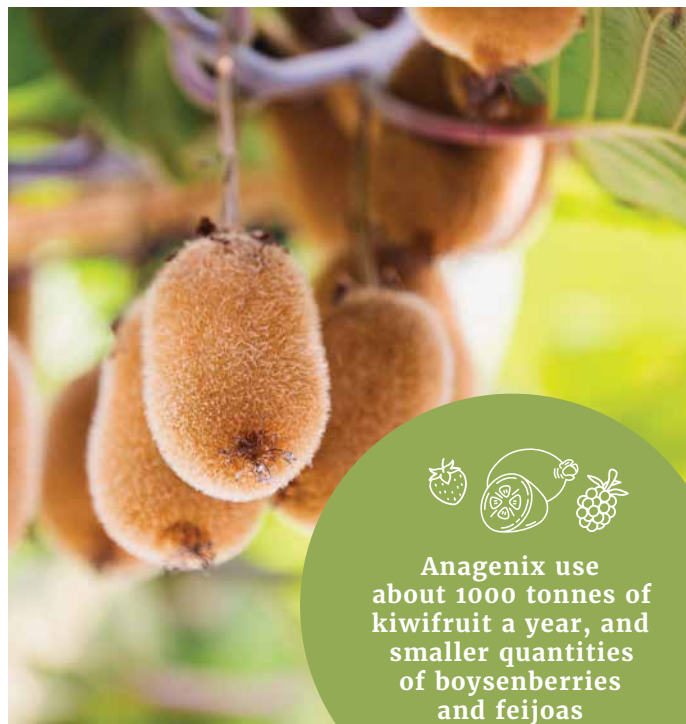
"I had invested in a New Zealand company called Foodbrands. We were doing a lot of work in the United States. Even ten years back, there was already a lot of interest in functional foods. I wanted to create a business-to-business deal where we could sell ingredients."

But with Anagenix it all began with something very basic.

"It all started with constipation. We realised that constipation (when waste or stool moves too slowly through the digestive tract) affects 30 to 40 percent of the world's population, and it is known that a couple of whole kiwifruit a day are a great help in promoting bowel regularity.

"So we thought - why not put it in a powder and sell the ingredients to large global brands?"

We consider global health issues and nutraceutical trends when we develop supplement ingredients for the functional foods and nutraceutical market, making it a strategy for the business to launch relevant ingredients to global consumers. All the products we create are derived from New Zealand produce and backed by science."



Kiwifruit

Anagenix use about 1000 tonnes of kiwifruit a year, and smaller quantities of boysenberries and feijoas

Building on scientific work initially undertaken by Zespri and enlisting the help of volunteers, the Anagenix team undertook a couple of large clinical studies in New Zealand and in Canada.

"We needed clinical proof. In the first year we tested the product in the US market and attracted the support of several large nutraceutical and dietary supplement companies.

"Since then we have developed a portfolio of products that are sold through distribution networks in the United States, Canada, Australia, Asia and Europe."

To fulfil its ambition to become a leading ingredient supplier for the nutraceutical industry, Anagenix has developed partnerships with the Crown Research Institute Plant & Food Research, Callaghan Innovation, Riddet Institute, the University of Auckland, University of Otago, Massey University and Victoria University.

"New Zealand government science institutions and private research organisations have a track record of discovery in the natural bioactive arena," Johnson says.

The company doesn't manufacture the finished products in New Zealand but sells bulk quantities of ingredients freeze-dried by its plant at Avondale in Auckland.

In its first year of production, it processed 50 tonnes of kiwifruit into Actazin® - a product that improves bowel regularity. This has risen to 500 tonnes of green kiwifruit a year.

Johnson says while the first research was into the properties of green kiwifruit, the microbiome benefit found



Anagenix worker packing product

in the more recently developed SunGold variety came as a welcome surprise.

“We tested Gold as well and got a very big surprise. It also helps with microbiome balance. Gold contains different compounds and they are more effective than Green in supporting beneficial gut bacteria.”

This led to the development of Livaux®, a compound based on Gold kiwifruit which is now out-selling the traditional Hayward Green-based product in international markets, Johnson says.

Anagenix has since moved on to develop BerriQi® – aimed at improving lung health and restoration. Also Feiolix®, based on Feijoa extract and aimed at the management of blood glucose. At the moment Anagenix is also working towards a product harnessing the properties of blackcurrants.

“All our ingredients begin with whole fruits. We now use about 1000 tonnes of kiwifruit a year, and smaller quantities of boysenberries and feijoas.”

About 98 percent of its revenues come from exporting products in 10kg boxes by the container-load. The majority goes into the US market. Johnson predicts this proportion will reduce as other markets grow. About 40 percent of the company’s product goes to Europe.

Anagenix has recently expanded its presence into China by setting up Anagenix China. Anagenix China is a partnership with Chinese investors, with personnel involved in the nutraceutical and functional

food market. Anagenix NZ has a shareholding in Anagenix China.

However, the big Asian market has been a harder nut to crack as it is very price-conscious, Johnson says.

“China is a challenge. It is a complex market, and with Covid-19 and the rise in nationalism, the attitudes of Chinese consumers have shifted. For horticultural products it’s a long and expensive process to get things to market. It is about understanding consumer trends and coming up with solutions that meet consumer expectations on efficacy and sustainability. We have to have the science to back them, and market a product everyone can understand. But there are exciting growth opportunities.”

New Zealand provides the perfect environment for the creation of bioactives and polyphenols, which are produced in greater concentration in fruit grown in New Zealand than in nations of comparable latitudes in the Northern Hemisphere. Polyphenols are micronutrients with antioxidant activity that play an important role as a prebiotic, increasing the ratio of beneficial bacteria in the human gut, Johnson explains.

“This is due to the increased ultraviolet intensities during the New Zealand summer, which are at least 37 percent higher than the Northern Hemisphere. This extra ultraviolet light, specifically UVB radiation, causes plants to produce higher volumes of bioactives and polyphenols in their leaves and fruit to protect themselves against the harmful UVB rays.

Manufacturing nutraceuticals, food supplements and ingredients through the use of technology and science to capture the benefits of ultraviolet light, Anagenix markets New Zealand fruit products to the world. ●



**NZ Feijoa Growers Association Inc
2023 Commodity Levy Rate**

NZ Feijoa Growers Association Inc advises that the rate for the Feijoa commodity levy in 2023 remains at 3% of the price of feijoas sold in New Zealand at the first point of sale, or 3% of the fob value for export feijoas, or 3% of the unprocessed value of feijoas if a grower processes the feijoas on their own account. All prices are exclusive of GST.

The 2022 Annual General Meeting of the Association voted to keep the levy rate at the same level as the previous year.

Ian Turk
Manager, NZ Feijoa Growers Association Inc

www.feijoa.org.nz

Fresh graduates needed for New Zealand's primary industries

Elaine Fisher

More university graduates with sound scientific and practical understanding of agriculture and horticulture are desperately needed in all industry sectors, including government ministries, says Mark Ross, chief executive of Animal and Plant Health NZ (APHANZ).

"Schools, industry, parents and universities need to encourage more people into these fields of study to ensure that New Zealand can continue to feed the world and support our economy."

Mark is concerned that many of those in government departments making decisions which seriously affect farming and growing, have no practical knowledge or understanding of the industries.

"On one pre-Covid lockdown field trip, many of the regulators from government ministries were excited to see and touch lambs - they had never been on a farm before."

Lack of graduates has meant ministries have often employed immigrants to fill roles, and while they may have the academic qualifications required, they have little understanding of New Zealand farming and agriculture.

"We need to get science back in the room. Currently pseudo-scientists are getting airtime and driving the public debate. Real scientists are not getting platforms and our industry faces an automatic perception of bias."

One way of meeting those challenges is to encourage more young, bright, passionate all-round high achievers into agriculture and horticulture. Those are just the people who have won APHANZ (formerly Agcarm) scholarships in the past.

The 2022 winner was Sarah Wilson of Te Puke who is studying agribusiness at Massey University.

"It is important that consumers understand the value of agrichemicals and the effort that the industry goes to in



The 2020 winner of the APHANZ scholarship was Alexandra Tomkins

“

I'm passionate about the New Zealand primary industries and putting our high quality and nutritious products on the world stage

order to keep consumers safe. Each product has been thoroughly researched and industry bodies are always looking at how they can use agrichemicals more efficiently."

Their value spans far beyond the orchard gate. "If we cannot get our products to market due to pest and disease incursions, we have the potential for economic collapse," says Sarah.

For 2020 scholarship winner, Alexandra Tomkins, the journey of New Zealand's high quality nutritious food from farmer to fork was the impetus in her drive to become a leader in food production.

"I'm passionate about the New Zealand primary industries and putting our high quality and nutritious products on the world stage," says Alexandra who was studying for a Bachelor of AgriCommerce at Massey University when she won the scholarship.

"I'm particularly interested in supply chain management and logistics; getting a product from the farm gate to final consumers around the world."

However, Mark says while scholarships are more important than ever to convince more people to study horticulture, some of the larger funding bodies such as DairyNZ and Beef + Lamb have stepped back from scholarships, just when help is badly needed with attracting students into these programmes.

A decrease in the number of students studying agriculture and horticulture raises a sense of unease for the future, especially given the trajectory of the primary industries.

“Now, more than ever, we need progressive, smart and educated individuals to help innovate and drive change for growers and farmers - to enable them to survive in a changing climate, during a time of increasing political interference and escalating consumer demands.”

“New Zealand is touted as the food basket of the world, but with intense regulation from governments - both here and overseas - people are needed to seek solutions to meet these demands and drive productivity in farming.

“With pressures to slash emissions, be productive and support the economy, New Zealand farming is in a vice. It must find solutions to producing more with less - using fewer resources, emitting less, and on less available land. Managing these pressures requires innovative thinking and ideas.”

Farming industries are crying out for Bachelor of Agricultural Science students to keep abreast and help manage the myriad of issues the sector faces. High demand also exists for horticultural graduates to keep pace with the booming horticultural industry.

“Tragically, New Zealand universities have experienced a downturn in student numbers in recent years, resulting in too few agricultural and horticultural graduates to meet industry demands.”

Mark is at a loss to see how the problem can be addressed, but suggests selectively targeting promising students at colleges and offering opportunities to investigate the varied careers the primary industries offer, may be one option.

Associate Professor in Weed Science at Massey University, Dr Kerry Harrington, suggests some causal factors for this downward trend. “The Covid restrictions created difficulties for secondary school students. New Zealand is also in a period of low unemployment combined with a high cost of living, so the temptation for people to be lured into earning an income versus studying and accumulating debt could be a contributing factor.

“Despite there being no fees in the first year of study, the cost of university education is a major turn-off for many. Student allowances have barely increased in many years.

Universities have had few funding increases which, in turn, affects future fee structures for students.

“Another thorn in the side of agriculture is the negative publicity that the industry endures, especially around issues such as methane emissions and leaching of nutrients into waterways. Schools can also put students off studying agriculture, for similar reasons. But perhaps what they’re missing is the pathway to solutions. Trained professionals are needed more than ever to help farmers modify their practices to ensure the continued sustainability of agriculture.”

“

Now, more than ever, we need progressive, smart and educated individuals to help innovate and drive change for growers and farmers

Studying agriculture or horticulture at university doesn’t require a string of prerequisites. Secondary students interested in either degree must only have studied some sciences at secondary school. It’s not obligatory to have studied agriculture or horticulture.

Studying from home is one way of tackling the increasing costs of tertiary education, as it can make it easier for students to work and keep costs down. This is becoming increasingly popular, says Kerry. Massey University and other universities have developed expertise in distance education over the last couple of years. The pitfall is that students miss social interactions, one of the highlights of university life. ●

Formerly called Agcarm, Animal and Plant Health NZ (APHANZ) represents the New Zealand animal health and crop protection industries as well as rural retailers. The industry association promotes the benefits of safe, effective, quality products and services for the health of animals (including pet care) and crops. Its members are committed to the responsible use of products from research to disposal.

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On 19 February, 5 days after Cyclone Gabrielle hit, the clean-up is well underway with support from the New Zealand Defence Force

Hawke's Bay horticulture takes a massive hit in Cyclone Gabrielle

At 8am the morning after the cyclone, when everything had gone quiet, Brydon Nisbet called his tenant in Puketapu to check on the state of his apple block.

COVER
STORY

WEATHER
FEATURE

Bonnie Flaws

He was expecting to hear that the high winds had blown all the apples off the trees during the night. Instead to his horror, his tenant, a single mother of three, was on the roof of the house as floodwaters were rising around her.

"She was up there for seven hours. Once it had come down they made their way over orchards to a house on a hill where they stayed until Thursday when they were helicoptered out," he said.

But the bad news didn't stop there.

Brydon is chair of the Hawke's Bay Fruitgrowers' Association (HBFA) and an apple grower. He has a few

blocks around the region. One, in Puketitiri was totally fine, but the two in Puketapu had both been badly impacted.

"A little block opposite this one that goes right out to the stopbank [of the Tutaekuri River] is basically flat, completely annihilated. But this one can be salvaged."

While the apple trees are still standing, and have fruit on them, he now has to get the silt away from the trunks or they will suffocate and die. In a do-or-die operation he's brought in diggers in an attempt to save the trees. If he does manage to save them, he might be able to salvage 40 percent of the crop.



The flood waters in the Hawke's Bay area following Cyclone Gabrielle

Speaking with his industry cap on, he says growers in the broader sector have had a range of experiences.

"There are lots of people still trying to make that decision about what they are going to do. Then there are ones where there's no hope, like my little block, and you just walk away and try to clean it up at a later date. Then there's blocks that just got flooded but didn't have river silt come through them. Just surface flooding. Those blocks have pumped water out so the ground can dry, but no issues with silt."

“There will be some big decisions over the coming months... The industry will need significant support to rebuild



While it's too soon to understand the full extent of the impact, Brydon says it is clear there is a percentage that has been badly affected.

"However, there is a significant portion of the sector that's still harvesting and it's business as usual," he's keen to point out. Many growers were completely unaffected and are busy picking and packing, as harvest is in full swing.

"We need those good news stories right now," he says.

Catherine Wedd, a former apple industry director, said the cyclone couldn't have come at a worse time - everyone

was in mid-harvest. Not only have crops been lost but so have years of investment and infrastructure, technology and innovation.

"Some of the apple blocks wiped out were IP (Intellectual Property) varieties which have been bred specifically for the global markets to attract a premium. Other blocks have been set up for robotics, as the apple industry has been innovating significantly.

"There will be some big decisions over the coming months, on rebuilding and replanting crops. Our horticulture industry drives the Hawke's Bay economy and provides jobs for so many families. The industry will need significant support to rebuild," she says.

Catherine, who is speaking to growers every day, says many are determined to get through. The industry is strong and resilient.

"It's important we continue to promote the New Zealand apple story to our international customers to ensure they maintain confidence in the industry here, as we produce the best apples in the world," she says.

Berry Farms NZ, part of RD8 Fresh Produce Group, had both of its farms hit by the floods. Its Hastings farm was hit harder by water, which ranged from knee-deep to shoulder height. Sheds and the owners' home was wrecked, says general manager Johnny Milmine.

"The irrigation shed and all electrical pumps and systems were wrecked, which meant we could not irrigate. The silt water also blocked the drippers, which means our entire raspberry farm has been wiped out."



Growers were affected in different ways. While some were harvesting days after the cyclone, others were trying to salvage their crops

HMNZS Te Mana crew help clear silt from an orchard in Havelock North on 19 February

Its other farm in Bay View was also affected and only about 50 percent was salvageable. To make matters worse, they can't start harvesting because they have no way to power the coolstore, and transport remains a problem.

“

There are lots of people still trying to make that decision about what they are going to do

“Guidance from MPI (the Ministry for Primary Industries) and retailers is coming through. At this time of the year we would be just starting our second harvest cycle, which would see over 120 pickers onsite. These people are now either jobless or hopefully somewhere else. It will take a full year for us to be back to where we were prior to the storm,” Johnny said.

While Hawke's Bay is most well-known for its summerfruit, apples and pears, a lot of vegetables are grown in the Bay - tomatoes, sweet corn, peas, processed beans, leafy greens, onions, squash - mostly for export. The region is also home to vegetable growers and processors Wattie's and McCain Foods.

Agronomist Dereck Ferguson has been conducting testing and assessments on behalf of his clients in the badly affected zone between the Ngaruroro River up to the Tutaekuri River, and also behind Awatoto on the waterfront down to Meeanee, about 6000 hectares at a rough calculation, he says.

“This area between Meeanee and Awatoto has a contaminant problem because of the leaking sewerage [from the damaged wastewater plant], the fertiliser works and the BioRich facility.”

This infrastructure was all completely underwater in the aftermath of Gabrielle. There will be a lot of testing going forward, he says.

There are different types of silt affecting different places, some of it sandy but a lot of it more composed of clay. Some of it would be able to be incorporated into topsoil so growers could get a cover crop in and soil biology going again, even if it is very deep silt, he says.

“Those assessments need to be made paddock by paddock. Some have silt of various types and depths, and some have the top soil stripped depending on the location.”

On the whole he says vegetable operations have been hit quite badly, and of course it has knocked growers pretty hard too. But they are quite pragmatic and focussed on what they can still make an income from, as well as any immediate work that needs doing, Dereck says.

A spokesperson for the Hawke's Bay Vegetable Growers' Association estimated that about 2000 hectares of vegetables and cropping has been entirely decimated.

The loss of direct income from that 2000ha, more than 50 percent of total production, is in excess of \$30 million. Sixty thousand tonnes of crop, of which 55,000 tonnes is edible vegetables, has been destroyed by Cyclone Gabrielle, they say.

A December 2022 update on the HBFA website written by Brydon Nisbet for growers, in what was already an incredibly wet summer, seems a fitting way to end this account of the impact of Cyclone Gabrielle:

“
A huge amount of the sector is still harvesting... We need those good news stories right now

“I recently picked up the book *100 Harvests: A History of Fruit Growing in the Hawke’s Bay* which was written by Rose Mannering to celebrate HBFA’s centenary in 1999. While thumbing through this book, I reflected on some of the immense challenges our industry has previously navigated. I found former HBFA president J H Milne’s account of the 1936 season particularly poignant when he wrote “This year major calamities, including a destructive gale, a frost, and low export prices seem to be more than we can bear.”

“For additional context, the pre-season export forecast for 1936 was for 200,000 cases - the quantity exported was 9,035 (less than 5 percent). The point is that our industry is resilient, we have overcome challenges before and by pulling together, we will overcome them again.” ●



Defence Force helicopters landing in Hawke’s Bay to evacuate people and animals

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Sandy Scarrow, managing director of Fruition Horticulture

Horticulture truly part of Sandy's DNA

Given that Sandy Scarrow has well known and talented horticulturalists in her family, it seemed almost destined she would make a career in the industry.

Elaine Fisher

"My maternal uncle was James McPherson who did his apprenticeship at Kew Gardens in London and returned to New Zealand to become director of the Christchurch Botanic Gardens," says Sandy, who today is the managing director of Fruition Horticulture and a member of Women in Horticulture.

"It's James we have to thank for the mass planting of daffodils in Hagley Park. James also became a television gardener in 1966 with a weekly programme, *Gardening Quarter*."

Sandy's father Eion Scarrow presented the gardening show *Dig This* on New Zealand television from 1972 until 1986. While Sandy says she has been "in the horticultural industry since a baby in the bassinet under the propagating bench" the industry wasn't her initial choice when it came to tertiary studies.

"I started management studies, then went to Massey University to do a veterinary degree before I came to my senses and switched to a horticultural degree, which was much more appropriate for me.

"From the start I had a strong sense that I wanted a career in production rather than amenity horticulture. I wanted to grow healthy food for the world."

When Sandy graduated, New Zealand was in the grips of an economic crisis with high unemployment and government departments shedding staff. "It was a really tough labour market, but I was fortunate to be offered a role with MAF (Ministry of Agriculture and Fisheries) advisory services division in either Alexandra or Whakatāne. As it was close to home, I chose Whakatāne."

That decision also helped shape Sandy's future career path. The Eastern Bay of Plenty had a booming

horticultural industry, which included asparagus growing and was emerging as a strong kiwifruit region with new plantings and post-harvest facilities being established.

“Kiwifruit was well established in the Bay of Plenty but people thought Ōpōtiki was a backwater for the industry and didn’t initially realise the potential the area had for growing fantastic crops and incredible yields. We were all learning together, how to successfully grow kiwifruit.”

Keen to immerse herself in the industry, Sandy made the move to Tauranga to become part of a dedicated team of horticultural consultants.

By then she was working for Agriculture NZ Ltd, owned by PGG Wrightson, which went on to sell its pastoral consultancy business to its staff. “The horticultural consultants had ‘flown under the radar’ and were not offered the same package. We wanted something similar and negotiated a management buy-out.”

And so, Fruition Horticulture was born. While Sandy says it was a relatively easy way to begin a new business, it came with its headaches too. “Early on it was tough and my business partner Ruth Underwood and I often worried about paying staff wages, something we had not had to consider when working for a government department or large corporate like Wrightsons.”

Fruition Horticulture Bay of Plenty, still owned by Sandy and Ruth, initially employed one other consultant and an office manager. Today the business has a full-time equivalent staff of 20 with, depending on demand, up to 40 more employed in part-time roles throughout the country.

“We have established long-term, and often very deep, relationships with growers and this is among the highlights for me of my career.”

As well as hands-on consultancy advice, the business has made a name for itself as an innovator in the industry with a strong focus on sustainability. “The people, profit, planet model is at the forefront of our thinking,” says Sandy.

Fruition Horticulture is known for the leadership it takes in training people at all levels within the industry, and has the contract to deliver the Vakameasina programme for Recognised Seasonal Employer (RSE) scheme workers.

It has developed and delivers the Fruition Diploma in Horticulture Production, delivers the Lincoln Diploma in Horticulture and other short courses. Fruition partners with Te Pūkenga (formerly the Primary ITO) to deliver tuition for New Zealand Certificate in Horticulture to horticultural apprentices.

One initiative Sandy is particularly proud of is the Agrecovery programme which today provides free recycling for plastic containers from more than 3000 of the most common agri-chemicals, animal health and dairy hygiene products sold into the New Zealand market.

“We got funding to initiate that project from the Ministry for the Environment and carried out a thorough analysis

of how it should operate. We were determined that the plastic be recycled in New Zealand rather than shipping our problems off to the third world. Today the levy paid when agri-chemicals are purchased funds the scheme and millions of kilograms of plastic have been recycled nationwide.”

In the last 35 years Sandy has worked alongside kiwifruit growers as they experienced the industry’s highs and lows, and in 2023 she is concerned for growers of green kiwifruit.

“Up to half of these growers are facing an income below the cost of production this year, which is incredibly hard for them. I am also really concerned there might be a knee-jerk reaction in the form of a challenge to the industry’s single desk marketing structure. The single desk is critical to the success of the industry and needs to be protected.”

“

If organisations want to attract and retain the talent that is out there, they need to seriously reflect on their organisational culture

Looking ahead, Sandy is excited to be working alongside iwi and hapū groups seeking to develop their land with the goals of establishing long-term income, education and employment opportunities alongside caring for the land.

Sandy who thoroughly recommends a career in horticulture to young people, young women in particular. Having said this, Sandy also raised concerns expressed by some young women about the sexism that still exists within some organisations.

“If organisations want to attract and retain the talent that is out there, they need to seriously reflect on their organisational culture. Allowing sexist remarks in the boardroom and/or the tearoom, or turning a blind eye to other forms of sexual harassment (or racial harassment) is not creating a positive workplace culture. Such behaviour needs to be challenged at all levels within the industry.”

Sandy is particularly encouraged by the young women coming through into the industry. “We have a great team and I see a range of young women stepping into roles throughout the industry and contributing so well – it’s exciting for them and it’s great for the industry.” ●



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

New wellbeing resource launched for growers

Supplied : NZ Kiwifruit Growers Inc.

The kiwifruit industry has teamed up with Farmstrong on a new resource to help growers manage the ups and downs of the industry.

This year looks like it's going to be another bumpy year. On top of the usual challenges such as wind, rain, hail and sourcing labour, green kiwifruit growers have been hit by poor returns due to export volume and quality issues from last year's harvest.

NZ Kiwifruit Growers Inc. chairman Mark Mayston says, "We understand how tough this will be for many growers after an already difficult year. As a grower, I've also had my share of highs and lows and completely understand how trying the industry can get. That's why it's important to take steps to maintain personal wellbeing, even when times get tough."

Live Well, Grow Well tells the stories of experienced growers and industry figures who have navigated tough times before and share what they now do to manage workload and stress. It also contains expert advice on topics such as nutrition, sleep, strategies to manage pressure and the importance of rest and recovery time.

“

We understand how tough this will be for many growers after an already difficult year

The book encourages growers to adopt the Five Ways to Wellbeing - connecting with mates, learning new things, keeping active, enjoying simple pleasures and helping friends and community. Research shows these habits are proven to have a cumulative, positive effect on people and increase their resilience.

One of the growers in the book, Katikati-based Sean Carnarchan has notched up more than 40 years' experience. He says it's a great industry, but there are always challenges.



Farmstrong ambassador and rugby great Sam Whitelock comes from a farming background and studied horticulture

"When you think things are going swimmingly well, there's always something around the corner to challenge you. And generally the things that challenge us in this industry are not of our own making. They are normally outside influences."

He says adjusting your mindset can really help manage pressure. "I always talk about two things: the controllables and the uncontrollables. All the things you can control, you need to have a plan in place to deal with them, but don't sweat the things you can't control."

"The classic example is when it rains and you can't work and you think 'I'm going to get further and further behind.' Yes you are, but it doesn't matter how much worrying you do, it won't improve the situation. What you can do is discuss the work programme, prioritise what needs to be done and have a good plan in place so when the weather comes right, you have retained everybody and you can get on with it. That's critical."

Sean says part of lasting the distance in the industry is prioritising your wellbeing. His own stress busters include mountain biking, fishing and catching up with mates. "If you can get exercise along with socialising happening on a regular basis, it just gives you that balance and a chance to recharge.

"I have a group of guys I get together with for a beer once a week and most of them don't grow kiwifruit. It's something different. It's always at the end of the day and a good way to unwind. Socialising with good company is so critical. You want to surround yourself with positive people so you get good vibes off that."

"I like what Farmstrong is on about. Now is the time to discuss these ideas and take action before things get potentially even tougher. Have the conversations now. It's well worth it. People have different levels of anxiety and stress in all jobs so it's really good to reach out."

Another industry stalwart, Marty Robinson, shares the lessons he learnt from a tough period of burnout some years back. Marty currently manages 16 hectares of kiwifruit, is involved in developing the Baygold group and runs his own farm. He's also involved in the not-for-profit Daily Café in Te Puke.

"I was a capable person who could turn his hand to most things, but what started out as an asset eventually became a burden. I was going at things hammer and tongs, doing six or seven things at once. I ended up burnt out in a major way."

"It was a hard lesson. I had to learn to say 'no', step back and pass things over to others. I was lucky I had great support from my wife, family and team."

Not surprisingly, Marty's a good source of advice for growers feeling stressed. "Even when things happen that are outside your control, there are still things you can control to ease pressure. For instance, get away from your phone, just use it for a set period every day. Turn off your notifications and get off social media."

"Prioritise your workload too, especially if you're short of help. There's no point stressing about orchard work you can't realistically get to. Write a list of what you can do and reschedule other things until after harvest. You'll feel more in control."

These days Marty is proactive about managing the challenges of the industry. "To a certain extent, we all have to grin and bear things, but if you're really feeling under the pump, don't be afraid to step out, leave the phone at home and do something different for a day."

"I love the industry, but I was the classic example of someone overdoing it. I learnt a hard lesson. Once you let yourself get too far down that hole, it's a long way back. I had to prioritise what really matters in life - my health, my family and then my income. Once you've got things in balance, you'll be alright no matter what's happening in the industry."

Michelle Sullivan manages four orchards and has been involved in the industry all her life. "We've owned our orchard for nearly 21 years. We planted our orchard ourselves. We bought a house with some bare land and developed it all - borrowed, scrounged, bought second-hand posts, dug all the holes for the plants and pretty much laid out the whole orchard ourselves."

Right from the early days, Michelle recognised the need to put some time aside for herself every day. Her 'one hour a day' has been an essential part of balancing a full-on job in

a pressured industry with a busy family life.

"I have always given myself an hour every day to do what I want to do - go for a bike ride, a walk, meditate, do stretches, all that kind of stuff. It's so important. Otherwise it's all just too much."

Michelle says pressure is part and parcel of the industry. "Over the last couple of years with Covid, making sure there are enough people to come in and do the jobs that need to be done has been a pressure," she says. And picking time can be stressful too, "making sure the results are right when we do pick the fruit."

She says this is why wellbeing has to be a high priority for the industry. "If you're not well, if you're not around, the business is not going to last. Growing kiwifruit is a real family passion and I love working so I have to make sure I get some work-life balance. If I didn't take that hour for myself, I think I'd burn out."



When you think things are going swimmingly well, there's always something around the corner to challenge you

Farmstrong ambassador and rugby great Sam Whitelock also features in the book. He comes from a farming background and studied horticulture at university.

"The kiwifruit industry is an exciting industry but I know from talking with growers that it has its fair share of pressures too. There are always the things that you can't control, such as prices or the weather, which can make life stressful. But when you work on a farm or orchard, you have to prioritise your wellbeing and make it happen yourself. There are steps you can take to relieve stress and pressure if you're feeling 'under the pump,'" says Whitelock.

"Different things work for different people, so this book is a chance to check out what other growers are doing so you can lock in what works for you."

"I've seen first-hand the positive impact that being Farmstrong has on people. Last year, 15,000 farmers increased their wellbeing thanks to Farmstrong. If you're doing it tough, this is a very handy resource to add to your toolkit."

Growers' chairman Mark Mayston agrees. "This book couldn't come at a better time. The great thing about it is that it doesn't just acknowledge the pressures we deal with, it offers practical solutions. It shows there's always a way through these challenges if we look after ourselves and each other."

Live Well, Grow Well will be distributed free to growers at the Kiwifruit Growers' annual, pre-harvest roadshows. ●



Martin Milne of Incider Trading Ltd in Cromwell with his new cider venture

Central Otago business diversifies into cider

A popular brand of apple cider made by a Teviot Valley orchardist almost 30 years ago has made a comeback, with a new owner who has diversified his fruit growing business.

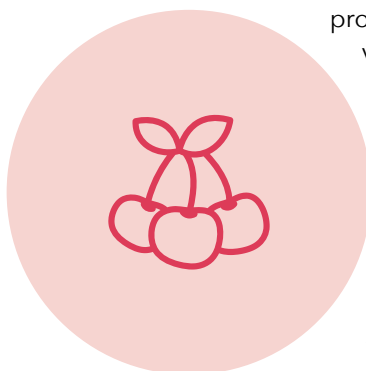
Aimee Wilson

Owners of Cheeki Cherries, Martin and Dallas Milne of Cromwell, took over the former Bengier Gold cider business two years ago, and spent the early part of that winter crushing 60 tonnes of apples.

Producing 30,000 litres of the liquid gold, Incider Trading Ltd uses an original recipe to make the 'Gold' apple cider, and also a new cherry plum cider with fruit from their orchard at Ripponvale.

The apple cider was first made in Dunbarton in 1995 by orchardist Bruce McGregor, where the Bengier Gold company first started - named after the local mountain range.

Cheeki Cherries decided to add another original flavour using their own waste fruit to test the market, producing 1200 litres of the new cherry plum variety, which has also proved popular.



The original craft cider is made from a mixture of Granny Smith, Cox's Orange and Braeburn varieties from fruit still sourced in the Teviot Valley.

Bengier Gold moved its operation to Cromwell in 2000 when Bruce teamed up with a businessman who was bottling mineral water from the Pisa Range.

The company rebranded in recent years and changed its name to Benjer Drinks, leaving many



Plums have been late to ripen this season, but eventually the waste fruit will be turned into a local cherry plum cider

people wondering if Mount Benger had been spelt wrong all along. But the owners decided to change the 'G' to a 'J' as many people weren't sure how to pronounce it.

Then a few years ago Martin approached the owners to see if they were interested in his waste fruit, and they offered him a share in the business. He and his wife Dallas ended up buying out the whole cider venture.

The Cromwell brewery where the Benjer Drinks are still made, has the capacity for up to 75,000 litres of cider,

so there is plenty of scope to expand.

"It's a hobby that has turned into something a bit bigger than what we expected," Martin says.

Both of the ciders received a bronze in the New Zealand Cider Awards 2022. Since taking over the cider business, Martin has been actively marketing the product into local wineries, pubs and restaurants – both in bulk quantities so it can be sold on tap, and in cans.



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Three years ago they started a charity day encouraging locals to come and pick cherries, and donated the proceeds to Cerebral Palsy Society of New Zealand, for a young Wellington boy needing an operation.

The next year they raised money for a Cromwell family who lost their daughter.

“

We just love seeing locals and their families enjoy picking their own and eating our real fruit ice creams

In 2021 a chef at the Auckland City Mission was on holiday in Cromwell and when Martin realised that his fresh fruit wasn't able to reach those in need, he went about sending fresh cherries around the country - at no charge. They also generously packed up more cherries and couriered them to Wellington and Christchurch Missions as well - a whole 400kg of them.

This year's profits are going to the I Am Hope fundraiser for mental health.

So what inspires these orchardists to be so giving to those in need?

"It's not difficult," was Martin's answer. "We just enjoy giving."

Originally from Scotland and an avid football fan for many years, Martin's businesses Cheeki Cherries and Incider Trading have also been sponsors of the Cromwell Senior team, along with several other local businesses.

This has enabled Cromwell to field an extra team in recent years for the Otago competition, which includes many of the Recognised Seasonal Employer Scheme (RSE) Vanuatuan seasonal workers who work here for months of the year.

Before moving to New Zealand, Martin also worked as an oil and gas engineer around the world and latterly Australasia, before purchasing bare land in Cromwell in 2008.

He loves the four seasons in the South and also enjoys snowboarding over winter, so Central Otago was the perfect place to live.

He and Dallas worked to develop the bare land into three varieties of cherries (2222 trees to be exact).

They then went on to purchase two further orchards, which now offer both PYO cherries and stonefruit.

After the busy summer season, there will be a well-earned break before winter pruning gets underway. And once the first batch of cider runs out there will be more waste fruit to crush. ●

You can even find it on the iconic Hump Ridge Track in Fiordland, after Martin took a trip south and convinced the operators it would be a great drink to have after a long day's tramping.

But increased freight costs over the past year have not made it so viable to ship further afield.

It seems everything this couple touches turns to gold - literally. As well as their successful Gold range of ciders, the Cheeki Cherries pick-your-own (PYO) business, situated just 30 minutes from Queenstown, means they have been able to tap into the lucrative tourist market, with a strong following nationally as well.

“

It's a hobby that has turned into something a bit bigger than what we expected

"We just love seeing locals and their families enjoy picking their own and eating our real fruit ice creams," Dallas says.

Cromwell is fast becoming a destination for PYO cherries, with people coming from as far afield as Auckland in the North and Invercargill in the South for that pick-your-own experience.

In recent years Cheeki Cherries has started giving back to the community, holding an annual fundraiser for a charity of their choice, in mid-January.

Global interest surpasses expectations



Jen Scoular : NZ Avocado chief executive

Our hearts and thoughts are with those impacted by the recent Cyclone Gabrielle. It's devastating to see the destruction left in Gabrielle's wake throughout New Zealand. We really feel for our avocado growers who have been affected and also for our peers right across the horticulture sector.

The mid north region of New Zealand, where we have a large number of avocado orchards, was significantly impacted, though not as severely as other regions. We continue to work with our growers, providing what support they need from us.

It's been the most unseasonal summer and these recent weather events are incredibly pertinent to some of the topics we'll address at the 10th World Avocado Congress in April. Keynote speakers, including Brent Clothier, Cathy Burns and Lain Jager will discuss climate change and the global impacts on horticulture right now.

“

We must consider the phrase 'growth occurs outside the comfort zone' and all play our part in a vital conversation about the future of the avocado sector globally

At the time of writing, there are six weeks to go until the World Avocado Congress (much less by the time this is published!). We recently hit a total of 1,024 delegates attending the congress - a fantastic milestone - well over our initial target of 850. Amazingly, it's the overseas delegates, now over 650, that are breaking all the records (we originally had 450 as a stretch target). We hope that local growers will embrace this once-in-a-lifetime opportunity to down tools, join 1000+ other avocado lovers and learn, share and network for a few days. That said, it's has been a really tough year and we are collectively acknowledging that growing avocados in New Zealand needs good productivity and great quality to be financial sustainable. The realities of being a horticulturalist are often tough.

Having received over 160 abstracts, the three-day academic programme for the congress is looking terrific. Our keynote speaker line-up is nothing short of impressive. The congress will challenge what we think we know. Our speakers will likely pose uncomfortable questions and concepts. But, to ensure the sustainable growth of the global avocado industry, we must consider the phrase 'growth occurs outside the comfort zone' and all play our part in a vital conversation about the future of the avocado sector globally.

The congress kicks off with field days on Saturday 1 and Sunday 2 April. Delegates will pile onto a bus with dozens of other people they're yet to meet and head off to new pastures to hear from the hosts about innovation and a passion for knowledge, all the while wandering through a beautiful avocado orchard. Our field days have proven so popular they are almost sold out. They have been a huge and complex undertaking and I'm so grateful for the organisation taking place by my team behind the scenes.

The opening ceremony on Sunday 2 April is intended to celebrate Aotearoa New Zealand. While the congress itself is focused on avocados, the opening ceremony is our opportunity to showcase our culture, our values and our amazing country. We are hoping our new Prime Minister to will join us in celebrating the opening of the congress and we hope to see you there too! ●



TECHNICAL

THE LATEST INNOVATIONS AND IMPROVEMENTS

Monitoring
metrics

Page 63



Monitoring weather metrics to understand fruit outcomes

Growing productive, high quality crops requires good orchard husbandry skills alongside various external factors, and possibly the greatest of these is the weather. Each of our major growing regions has a suitable climate for producing high quality crops, with climate being described as the general weather conditions usually found in each place. However, the daily weather experienced each season tests the extremes of this.

Sarah de Bruin : AgFirst Consultants Hawke's Bay

Editor's note: This article was written prior to Cyclone Gabrielle hitting New Zealand.

Weather can have a positive or a negative influence on both crop quantity and crop quality. Therefore, it is important to monitor various climatic metrics, as this helps us to understand why our crops grow in the way that they do, when exposed to that season's conditions. This can help to give us an insight into what the potential fruit size, colour and quality metrics may be, therefore allowing for better on orchard management decisions, post-harvest storage and selling strategies.

Different outcomes influenced by the seasonal weather include:

- Pollination and fertilisation success
- Bloom timing
- Fruit colour
- Size
- Dry matter and Brix
- Starch progression
- Defects
- Tree health e.g. nutrient uptake or root health.
- Maturity progression
- Disease pressure

As we know, we are in our third year of a La Niña weather pattern, characterising this season prior to mid-February with well above average rainfall across the East Coast of the North Island. However, as La Niña's effects differ across the country, regions such as Nelson have experienced good fruit growing weather this season to date.

Thus, I will outline what major weather metrics we monitor, what influences these metrics may have on fruit outcomes, and how you, as a grower, can manage them.

Rainfall and Evapotranspiration

Ensuring our crops have an adequate supply of plant available water is vital to fruit production. Water is an essential requirement for photosynthesis, and also

influences the rate of nutrient uptake from soil. Thus, a lack of plant available water is a limiting factor for crop growth and development. Timing of rainfall (and irrigation in its absence) has an impact across different crops throughout the growing season.

Evapotranspiration is the process whereby water moves from the earth's surface into the atmosphere. It combines evaporation from the soil surface and transpiration, water loss through plants. Both understanding the potential supply of water through rainfall, and factoring in evapotranspiration are important to accurately determine irrigation requirements and ensure there is suitable plant available water.

The main impact of rainfall differences is the changing irrigation requirements. Adequate irrigation, with correct capacity and output, is important when there has not been enough rainfall to support the tree's surface and deeper root systems. Surface root systems are the most active, extracting soil moisture and nutrients from the upper soil layers. When stresses develop due to a lack of available water, uptake occurs through deeper root systems, which tap into the groundwater system.

Rainfall is also important for the recharging of groundwater, which in turn influences drainage. Drainage management, particularly in heavy soils, is important to prevent soils becoming flooded, as this can inhibit root growth development by creating anoxic conditions, filling soil pores with water and not air. Alongside the fruit quality and tree health benefits of maintaining good drainage, saturated soils coupled with wind can result in rows of trees falling over, particularly coming into harvest while the canopies are full. Clear and open surface drains alongside well-maintained subsurface drainage systems are important in heavy soils to move water following rainfall events where the soil reaches the point above field capacity.



Tractor ruts in soft ground



Good drainage management is important moving water above field capacity



Ambrosia after leaf blowing - showing fruit colour development

Tractor use over wet soft ground can result in ruts and these can lead to a multitude of health and safety and fruit damage issues at harvest if not managed correctly. Properties with significant ruts should take an extra look at their subsurface drainage as part of their post-harvest management plan.

Rainfall, and therefore leaf moisture and free water, can increase the potential for disease susceptibility and the dispersal of fungal spores. Thus, monitoring upcoming weather conditions to ensure adequate fungicide cover applications is important to provide ongoing protection throughout the season.

Solar radiation

Solar radiation is a measurement of the electromagnetic radiation emitted by the sun. This metric is a vital component driving photosynthetic rate, however levels of solar radiation which are too high can cause photoinhibition (a reduction in photosynthesis) and potentially sunburn.

Solar radiation exposure helps the fruit to develop a waxy cuticle to protect it from cosmetic damage such as sunburn, or permeance of the apple skin leading to moisture loss and texture loss. The development of this cuticle also affects the fruits' ability to exchange gas such as CO₂ with its external environment, and in some varieties this can lead to post-harvest storage disorders, requiring management.

Monitoring solar radiation can help give an insight into potential fruit size outcomes, as well as colour development, which can lead to harvest management decision-making. Grower management techniques to manipulate the light environment within the canopy, created by solar radiation, can include using reflective mulch between rows to redirect light that hits the orchard floor back up into the canopy. Leaf plucking or leaf blowing is another technique used to expose the fruit within the canopy, and therefore promote fruit colour development prior to harvest.

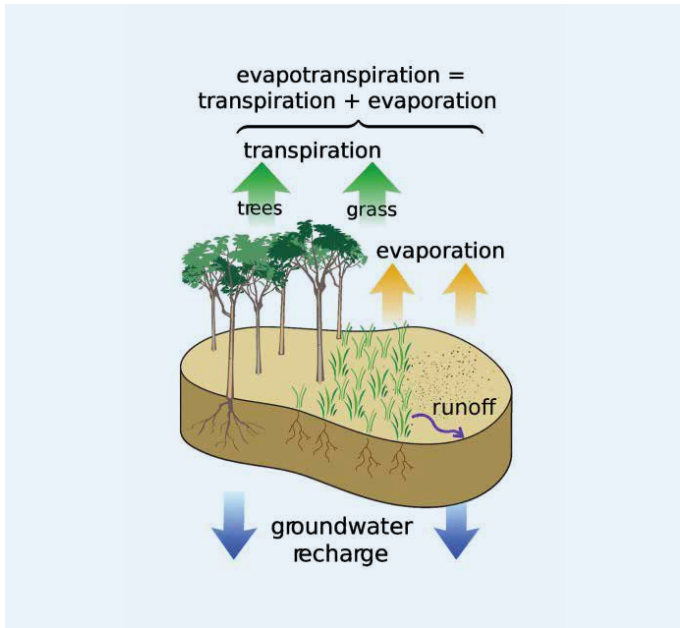
Temperature

The seasonal patterns of temperature greatly influence the phenology of fruit trees (Clark et al., 2012), particularly the timing of bud break, flowering and harvest. Deciduous trees such as pipfruit and summerfruit require a certain amount of accumulated chilling to break dormancy and trigger hormone and chemical changes within the tree. Inadequate chilling, without an artificial trigger (e.g. chemical application) may result in prolonged dormancy. Most varieties have a chilling requirement, and in those regions where chilling requirements are not naturally fulfilled, the use of dormancy breaker products can help.

As for solar radiation, the higher the daytime temperature, the higher the rate of photosynthesis. This increased photosynthesis rate can lead to an increase of fruit size in tree crops, however in vine crops such as grapes or kiwifruit, an increase in temperature can mean the plant favours vegetative development over reproductive development. Extreme high temperatures can result in photosynthesis decline as the trees close their stomata to conserve water at temperatures above 30 degrees. High temperatures can also have an impact on fruit quality, such as sunburn or shrivel in grapes (Clark et al., 2012). High night-time temperatures mean an elevated respiration rate and therefore a potential loss of fruit size potential, as plants use the stored carbohydrate during this process.

Low temperatures can create frost risk, damaging flowers and developing fruitlets. Additionally, low temperatures can restrict bee activity and potentially reduce the success of pollination, which can have knock on effects on fruit size outcomes.

The biosynthesis of plant pigments, which affect fruit colour through different pigment concentrations, is affected by environmental conditions, but particularly temperature. Lower night temperatures result in an



Summary

Having an understanding of the weather and its impacts on the growth and development of your crop, allows for educated management decisions to be made both on orchard, as well as in the post-harvest portion of the supply chain.

Reading the NIWA (National Institute of Water & Atmospheric Research) update in the February 2023 edition of *The Orchardist*, there are some interesting insights on the unusually warm and wet year that was 2022. Keeping a record of various weather metrics from a weather station relevant to your orchard, and the fruit quality, size and harvest timing outcomes will allow for a relativity between seasons to be measured. Data capture from this season will help give a good understanding of crop responses to extreme conditions, for those orchards in the North Island.

At a time when the climate is changing, and we are having increased extreme events, understanding and applying timely management tools allows orchardists to prepare for and manage to achieve the best outcomes possible from uncontrollable events. ●

References

Clark, A.J.; Nottage, R.A.C.; Wilcocks, L.; Lee, J.M.; Burke, C.; Kalaugher, E.; Roche, J.; Beukes, P.; Lieffering, M.; Newton, P.C.D.; Li, F.Y.; Vibart, R.; Teixeira, E.I.; Brown, H.E.; Fletcher, A.L.; Hernandez-Ramirez, G.; Soltani, A.; Viljanen-Rollinson, S.; Horrocks, A.; Johnstone, P.; Clothier, B.; Hall, A.; Green, S.; Dunningham, A.; Kirschbaum, M.U.F.; Meason, D.; Payn, T.; Collins, D.B.G.; Woods, R.A.; Rouse, H.; Duncan, M.; Snelder, T.; Cowie, B. (2012). *Impacts of Climate Change on Land-based Sectors and Adaptation Options*. Clark, A.J.; Nottage, R.A.C.; Hansford, D. (eds) Stakeholder Report to the Sustainable Land Management and Climate Change Adaptation Technical Working Group, Ministry for Primary Industries, 76 p.

Chappell, P.R. (1987) *The Climate and Weather of Hawke's Bay*, 3rd Edition niwa.co.nz/static/Hawkes%20Bay%20WEB.pdf

Lin-Wang, K., Micheletti, D., Palmer, J., Volz, R., Lozano, L., Espley, R., Hellens, R.P., Chagnè, D., Rowan, D.D., Troggio, M., Iglesias, I. and Allan, A.C. (2011), High temperature reduces apple fruit colour via modulation of the anthocyanin regulatory complex. *Plant, Cell & Environment*, 34: 1176-1190. <https://doi.org/10.1111/j.1365-3040.2011.02316.x>

increased expression of the gene which is associated with anthocyanin development, meaning an increase in the red foreground colour (Lin-Wang et al, 2011).

Growing Degree Days (GDDs)

The calculation of the total number of degrees above a base threshold temperature each day is called the Growing Degree Days. GDDs above a certain temperature influence the plant's rate of growth and development, and therefore this calculation is useful when understanding maturity or the harvestable state of the crop.

As mentioned above, plants photosynthesise during the day and respire at night, however the GDDs are calculated over the 24-hour period, regardless of the timing. Consequently, high night-time temperatures, often due to cloud cover, will result in accumulation of growing degree days. This can therefore be misleading as the growing degree day amount may indicate a larger fruit size than the reality, due to the faster rate of respiration at night burning carbohydrate.

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Cyclone Gabrielle

Georgina Griffiths : Meteorologist, MetService



National State of Emergency declared

A nationwide State of Emergency was declared on 14 February, as Cyclone Gabrielle lashed the North Island - only the third time such a declaration has been made in New Zealand's history.

The declaration was issued to support six regions that had already declared a Local State of Emergency: Northland, Auckland, Tairāwhiti, Bay of Plenty, Waikato, and Hawke's Bay.

“
With such a deep central pressure, this system produced a large area of severe gales, dangerous seas and extreme swells of 9-12 metres, as well as a significant storm surge

This cyclone was a **very** intense system even after coming out of the tropics, with an analysed central pressure of 965hPa (see MetService expert forecaster hand-drawn analyses in Figures 1 and 2). With such a deep central pressure, this system produced a large area of severe gales, dangerous seas and extreme


swells of 9-12 metres, as well as a significant storm surge (of at least 0.5m) along the northern and eastern coastline of New Zealand.

In addition, **extreme rainfall totals** (approximately 200-500 millimetres of rainfall) affected all northern and eastern areas of the North Island, resulting in loss of life, widespread and unprecedented flooding, and an extreme number of slips across the motu. Many rain gauges across the north and east North Island recorded near to, or more than, **half their annual rainfall total** in just the first 45 days of the year (see Figures 3, 4 and 5).

MetService forecasters had issued multiple Red Heavy Rain Warnings and multiple Red Wind Warnings, well in advance, for this cyclone. Red warnings are reserved for only the most impactful weather systems, which are expected to cause loss of life, significant impact, and significant disruption.

“
Red warnings are reserved for only the most impactful weather systems, which are expected to cause loss of life, significant impact, and significant disruption

Cyclone Gabrielle has certainly delivered an unprecedented blow to the North Island, and from us here at MetService to you out there cleaning up, at home or on the farm, kia kaha.

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

Effects of Cyclone Gabrielle



severe gales



dangerous seas



extreme swells



significant storm surge



extreme rainfall totals



widespread flooding



extreme number of slips

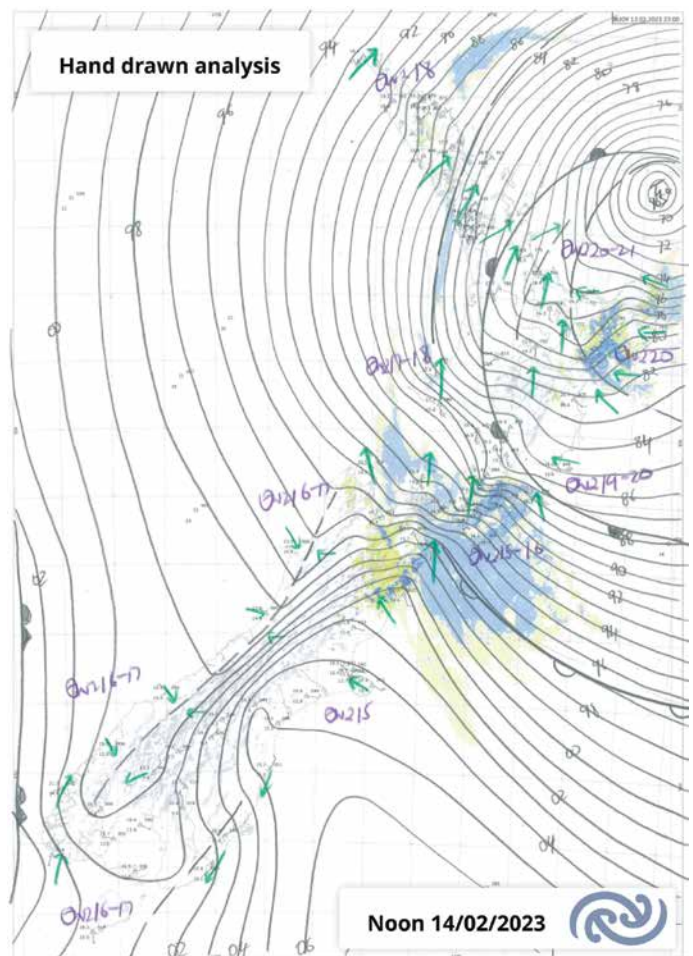
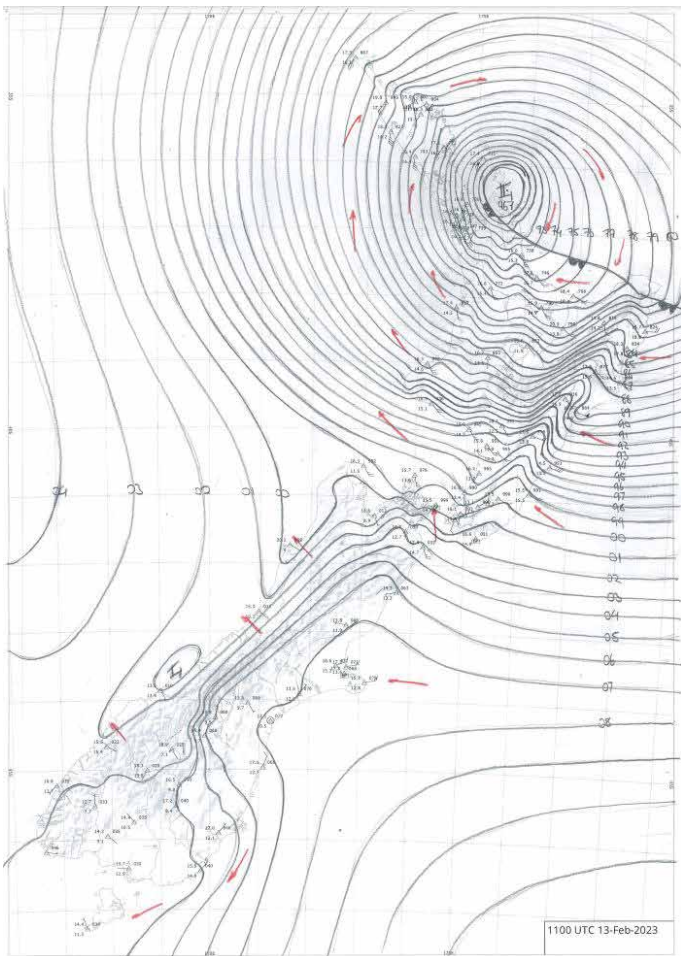
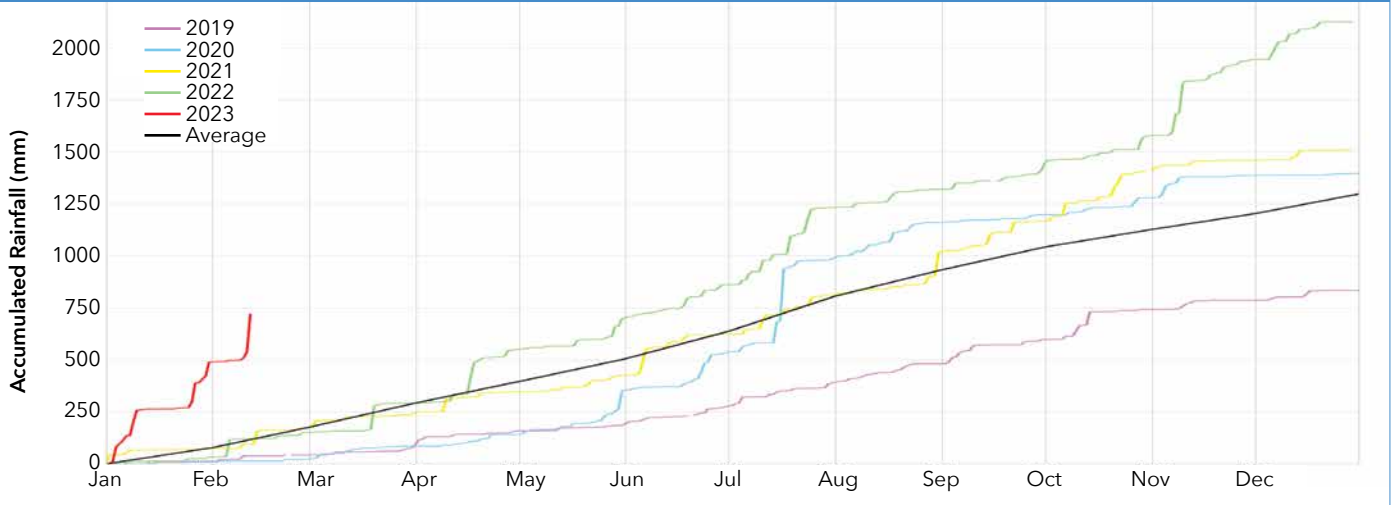


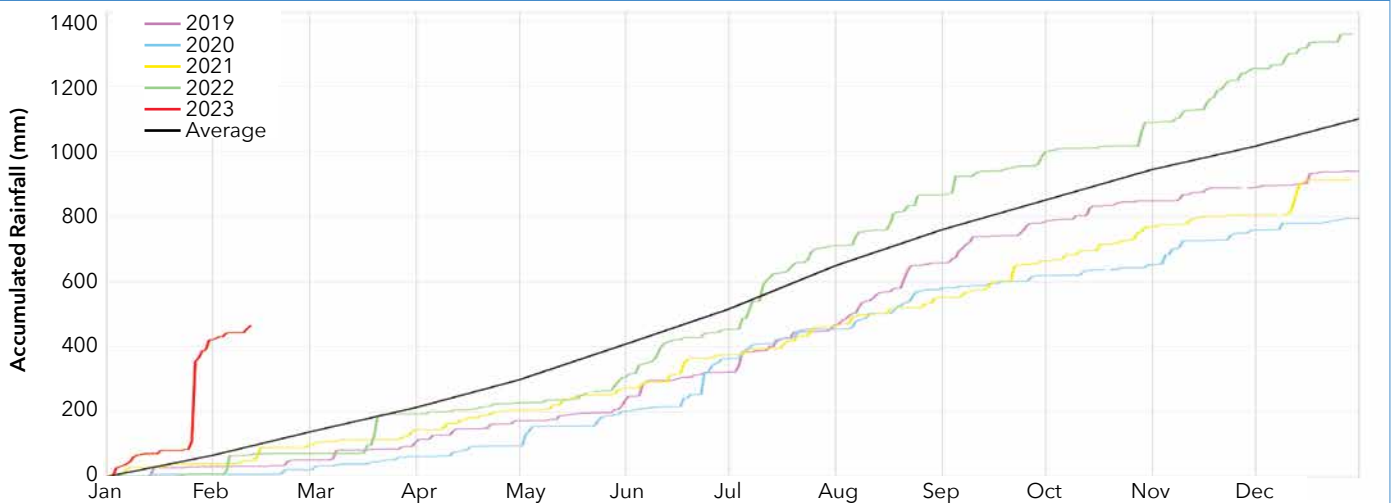
Figure 1 A hand-drawn weather map at midnight Monday 13 February 2023, showing extremely tight isobars around Cyclone Gabrielle (marked as L) as it lay just to the east of Great Barrier Island and Coromandel Peninsula.

Figure 2 A hand-drawn weather map at noon Tuesday 14 February 2023, showing the position of Cyclone Gabrielle just north of East Cape. In this analysis, rainfall as seen on radar is coloured blue.

3 Whangārei



4 Auckland



5 Napier

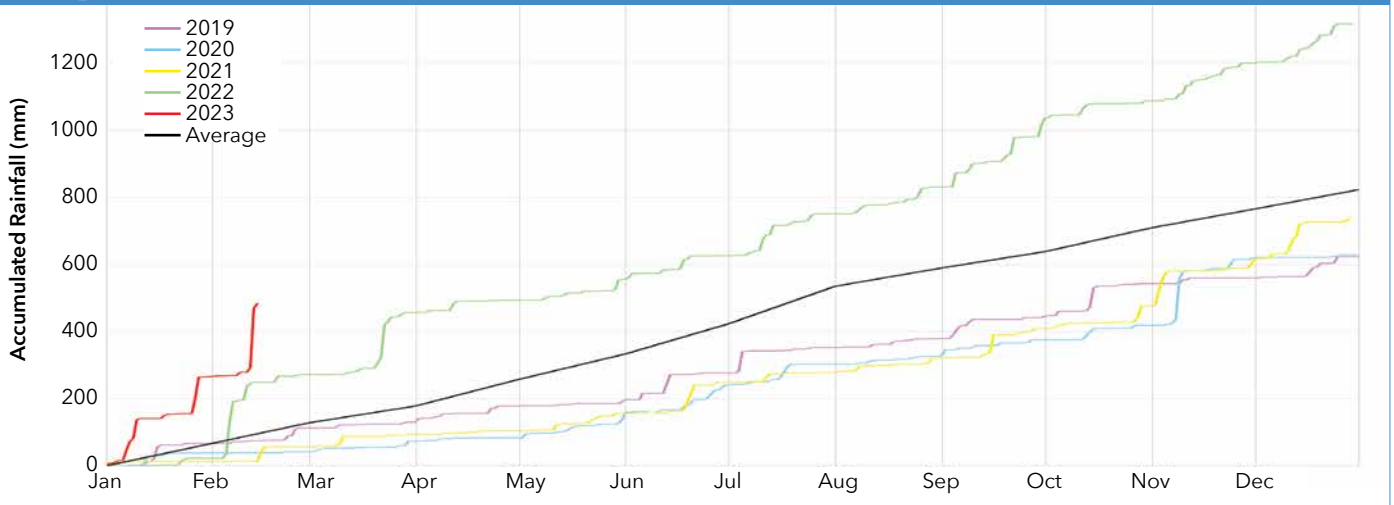


Figure 3: Whangārei Airport annual rainfall accumulation (mm) for the last five years (2019 to 2023). The annual average rainfall accumulation is shown in black. The year-to-date rainfall accumulation (722 mm) as at 9am 14 February 2023 was over half (56 %) of the usual annual rainfall tally, just 45 days into the year.

Figure 4: Auckland Airport annual rainfall accumulation (mm) for the last five years (2019 to 2023). The annual average rainfall accumulation is shown in black. The year-to-date rainfall accumulation (540 mm) as at 9am 14 February 2023 was around half (48 %) of the usual annual rainfall tally, just 45 days into the year.

Figure 5: Napier Airport annual rainfall accumulation (mm) for the last five years (2019 to 2023). The annual average rainfall accumulation is shown in black. The year-to-date rainfall total at Napier Airport was 483mm, or 60 % of the usual annual rainfall tally, just 46 days into the year.

Merpan® protectant fungicide delivers apple crop quality insurance

Low PHI, plus broad spectrum saves time and costs

ADAMA New Zealand commercial manager Doug Speers says Merpan® protectant fungicide is the time-sensitive insurance orchardists need. Effective against bull's eye rot (BER) and European canker in apples, Doug says it provides confidence in the quality of the crop.

The product's PHI (pre-harvest interval) of just three days, compared with the industry standard of 14 days, has been an industry changer. "The beauty of Merpan is that it can be applied between picks. It means growers can get in there before the diseases get established, and the risk of infection associated with picking scars can be managed more effectively."

Doug says the previous 14-day PHI standard had put export fruit quality and even entire markets at risk. "China has its own significant apple industry and no BER. That makes them highly motivated to stop bull's eye rot before it reaches their borders."

"High value crops including Pacific Queen, Pink Lady and Ambrosia are especially vulnerable to bull's eye rot. You usually only see it expressed when the cartons are unpacked and by then it's too late. That makes it a real issue for growers."

European canker has been described by some local growers as the number one threat to their business. A quarantine pest for Australia, China and Taiwan, it significantly reduces productivity and can even result in tree death in severe cases.

The infection may occur at any time during the year, but harvest, leaf fall and winter pruning are critical infection periods when the fungus can enter host trees through exposed wound sites such as pedicel and leaf scars.

"With European canker on the Merpan label, growers now have a very effective tool to manage the disease." Doug adds the PHI is also a major advantage.

Previously, the only products with label claims for European canker were copper based products such as copper oxide, copper oxychloride and Bordeaux mixture, and these may only be used post-harvest due to the risk of phytotoxicity.

More affordable than many of the newer fungicide chemistries, Doug says another of Merpan's strengths is that it is a broad-spectrum protectant covering a wide range of apple diseases. These include black spot - a major



and potentially devastating disease - and sooty blotch. "It's a good, effective preventative against a range of diseases in a second cover spray programme. It saves the cost of using different products and extra spraying. You can cover a lot of diseases with one chemistry."

"And, because it's a multi-site, it's another vital tool in the toolbox to help counter resistance."

In the north of New Zealand's apple growing areas (Hawke's Bay and Gisborne) Doug says weather conditions this past year have created high disease pressure. "Merpan is an especially good option across the board in these situations - it's an ideal fit." ●



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