

NZGROWER[®]

VOL 78 | NO 03 | APRIL 2023

HORTICULTURE NEW ZEALAND

FIGHT TO SAVE KŪMARA

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ENERGY DEMANDS

Innovative solutions for growers

Research and Development (R&D) supports the longevity of the horticultural industry by helping bring innovative solutions to New Zealand growers. Providing an unbiased and independent process, Fruitfed Supplies' R&D team trials products for potential registration, evaluating how they perform under local conditions.

Vonny Fasi, Fruitfed Supplies R&D Manager, believes the trials conducted by her team are a valuable source of data. To understand the breadth of trials, Vonny says 59 were conducted last season throughout the country and in all horticultural crop sectors. The products being trialled cover a wide spectrum and include plant growth regulators, biostimulants, biopesticides, agrichemicals and oils.

Looking at the trends in the types of products being trialled, Vonny says there is a clear move towards softer chemistries, biopesticides and biostimulants, with one-third of the trials conducted last season involving these products. Integrating them into crop protection programmes can prove challenging, though the methodology used in R&D trials allows the team to find the right fit.

"With a shift towards softer chemistry, we have altered our programmes to pick up the subtle differences these products have on crops."

Vonny describes the R&D process as collaborative. "Our approach with the organisations we run our trials for allows us to be flexible in our methodology. At the end of the season, we review our findings and from there determine what to do next season. This way, we can capture as much practical, in-field data as possible that can be passed onto growers when the product becomes registered for use in New Zealand.

"We run trials over multiple seasons, firstly testing a product's effectiveness on its own, then testing it alongside others so we can build a picture of how it works within different systems. With growers the end users of a product, we need to ensure our science is strong and unbiased so we gain a good understanding of where and how a product will perform."

Vonny says the horticultural industry is challenged by a reduction in the type and number of chemistries coming to market, along with the length of time it is taking for products to become registered. Together with trialing new products, the research conducted by the Fruitfed Supplies R&D team helps ensure the products currently available remain effective in the field.

"With the technical knowledge our team possesses, we have the capability to think outside the square. We have an overview of all the crops and the products being used within these programmes. We are therefore able to look for opportunities to use a product in an alternate way, say for example, on a different crop."

We know horticulture

fruitfedsupplies.co.nz

Fruitfed Supplies

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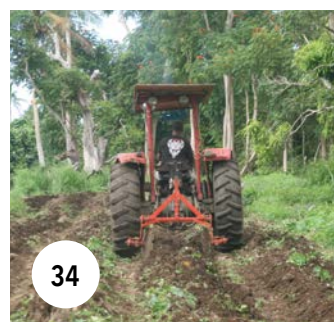
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ON THE COVER:

Northland kūmara fields damaged by Cyclone Gabrielle, see page 26.

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WHY DID GROWERS ESTABLISH HORTNZ?



Barry O'Neil : HortNZ president

In my column recently, I talked about the need for horticulture industry good bodies to have a serious discussion on finding ways to better collaborate. The Horticulture New Zealand Board and I believe there are opportunities that we need to pursue. Continuing the collaboration theme, I thought it would be useful to give the background behind establishing HortNZ, in part to stop any risk of reinventing the wheel as we enter into these discussions.

HortNZ was formed in 2005 by the merger of the New Zealand Vegetable and Potato Growers' Federation (Vegfed) and the New Zealand Fruitgrowers' Federation (NZFF). HortNZ was formed to be future focused, a united voice for the industry, and deliver measurable benefits for members.

Earlier attempts to unite the primary sector had been tried but had failed. As early as the 1940s, there was a proposal to merge the Dominion Council - an early grower body - and Federated Farmers, but growers were concerned about their interests being dominated by bigger pastoral interests, so this proposal didn't proceed.

It really wasn't until the rise of the powerful supermarkets, and along with this the demise of the auction system, that serious discussion started to happen about collaboration to achieve a stronger voice for horticulture.

Larger growers were developing direct relationships with the supermarkets, which left smaller growers struggling to see how they would survive. This period was one of significant disruption for the sector, which also coincided with the economic reforms of the 1980s.

“**It is appropriate that we challenge ourselves and look at whether we can achieve even greater results from the investment our growers are making in horticulture industry good bodies**”

In 1990, a 'Land User Forum' was proposed to represent the interests of NZFF, Vegfed, Federated Farmers, grape growers, and pig and deer farmers. It was to be a broad rural lobby group for common issues, including land use, environment, rural social services, economics, and biosecurity. After years of trying to make it happen, the idea failed due partly to concerns similar to those raised by the reforms tried in the 1940s.

A more targeted consolidation effort was made in 1995, when it was proposed that United Fresh become the de facto representative body for the whole fresh produce industry, including growers, wholesalers and retailers. It was proposed that each component would provide funding to achieve this outcome, through an equitable funding initiative that included the supermarkets. But the supermarkets didn't buy into this approach and the proposal collapsed.

Merging NZFF and Vegfed was originally proposed in 1990 by the then President of Vegfed, Keith Jowsey. However, the idea didn't start to get traction until after these other initiatives had failed. In 1997, the two organisations signed a closer working relationship. It was considered that such a merger would result in better use of staff talents, achieve greater critical mass and therefore, greater effectiveness that ultimately would result in cost savings.

From the closer working relationship, a more specific merger proposal was put to the members of the two organisations in 2003, seeking support for a more broadly based industry representative body, due to the common issues of resource management, compliance costs, market access, trade, labour, food safety, biosecurity, and industry profile.

The proposal suggested growers needed a more powerful, influential, results focused, effective and proactive representative body, whose critical mass would ensure its voice was heard above the numerous other competing lobby groups. There was recognition



The first HortNZ board: back row (L to R): Debbie Hewitt, Peter Scott, Ru Collin, Peter Silcock (chief executive), Tony Ivceovich, David Eder, (seated) Brian Gargiulo, Andrew Fenton (president) and John Allen

of the significant challenges to the sector, and that a single voice from HortNZ would be more powerful than multiple disparate voices.

Feedback on the proposal resulted in a HortNZ establishment group being set up in May 2004 to develop the final proposal. Key members of the group were kiwifruit, berryfruit and apple growers, Summerfruit New Zealand, Vegfed and NZFF, who engaged with grower organisations throughout the country to receive submissions. This process resulted in remits at the 2004 NZFF and Vegfed Annual General Meetings being supported to create HortNZ and disestablish those two organisations.

The late Jim Anderton, as Minister of Agriculture at the 2005 launch in Wellington, stated it was so sensible for industry groups to combine limited resources into one larger entity to achieve greater efficiency and effectiveness. He also said that for government, it was ideal if it could liaise with one industry organisation when working on issues that have a national impact.

Product groups previously affiliated with NZFF and Vegfed became affiliated to HortNZ, with HortNZ focused primarily on influencing government policy settings and advocating at the national level for all growers. Product groups were focused primarily on their growers' needs, being the voice for their growers, practically supporting their growers, and helping to maximise returns.

Since then, HortNZ and product groups have worked closely together to deliver successfully what they were set up to achieve. But in 2023 it is a far more complex and faster moving world than it was in 2005. As a result, it is appropriate that we challenge ourselves and look at whether we can achieve even greater results from the investment our growers are making in horticulture industry good bodies.

Everyone has limited resources. To me, the very last thing we would want to do is to increase the amount growers must fund in order to manage the plethora of growing challenges we are all facing, which history shows us are likely to get even more complicated in the future.

In doing my research for this article, there are some great industry leaders that I would like to acknowledge, who worked really hard to realise how horticulture needed to join together. These leaders include Keith Jowsey, Brian Gargiulo, Max Lilley, Tony Ivceovich, Ron Becroft, Paul Heywood, Martin Clements and Andrew Fenton.

The HortNZ Board has an open mind on options for better collaboration, and it's good to see a number of product groups are also engaging on this. Let's keep the momentum going and keep challenging ourselves until we are satisfied we have done everything to find the best approach to support growing and horticulture for the next 20 years.

Kia kaha. ●

NZGROWER

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NZGrower is produced by Horticulture New Zealand and is free for all levy payers. The magazine is also supported by: Vegetables New Zealand Inc, Process Vegetables NZ, TomatoesNZ, Potatoes New Zealand Inc, Onions New Zealand Inc.

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

ISSN: 2230-2700 (Print)

ISSN: 2744-5712 (Online)



MPA Associate Member (NZ)



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FOOD PRICES MAKE THE NEWS – AGAIN. CROSS PARTY ACTION NEEDED



Nadine Tunley : HortNZ chief executive

Food prices have been in the news again since Statistics New Zealand's release of the February 2023 food price index.

Statistics New Zealand headlined its media release with "12 percent annual increase in food prices highest since September 1989," noting that "fruit and vegetable prices increased by 23 percent".

Once again, the increase in fruit and vegetable prices got the media's attention. But the industry was ready, outlining the impact of adverse weather on supply and suggesting that the public should support domestic growers by continuing to buy fresh, locally grown and healthy fruit and vegetables.

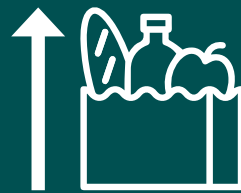
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Government policy makers and decision makers need to come together quickly

Cyclone Gabrielle and other adverse weather events since early October last year (when unseasonal frosts wiped out some kiwifruit growers) have highlighted New Zealand's vulnerability when it comes to food security and supply. We just can't assume any longer that 'she'll be right' when it comes to primary production in this country.

While the focus post Cyclone Gabrielle has been on the clean-up and grower support and wellbeing, industry experts, government policy makers and decision makers need to come together quickly to develop an approach to food security and supply in New Zealand. This approach needs to inform the reform of the Resource Management Act, which at the moment, does not prioritise food security and supply.

The Labour Government under new Prime Minister, Chris Hipkins, is making directional policy changes to appeal to 'middle New Zealand'. While there's no real definition for 'middle New Zealand', I would say they used to be the people who didn't worry too much about the price of food. But that the number of middle New Zealanders is decreasing.



12 PERCENT
ANNUAL INCREASE IN
FOOD PRICES

Members of Parliament from across all political parties are worried about the cost of living and its impact on increasing numbers of New Zealanders. At the same time, increasing numbers of New Zealanders are concerned about their society, health and education metrics that are going in the wrong direction, and the impact of the increasing number of adverse weather events on people's lives and livelihoods.

New Zealand is not known for its strategic direction and planning. Sometimes this is blamed on our comparatively short, three-year government term. It would be a pity if, in the scramble to win the next election, New Zealand's long-term prosperity and societal wellbeing became a political football, when increasing numbers of New Zealanders are under extreme pressure, due to the impact of the weather and/or the impact of unescapable inflation, as evidenced by the food price index.

“

With good planning and clear outcomes, New Zealand can adapt

Our industry's message to politicians - current and aspiring - is to engage with us and listen to the solutions that we have. Our industry's track record of innovation, growth and environmental stewardship is right up there on the international stage.

Just as we've said before, with good planning, New Zealand can have houses and food. With good planning and clear outcomes, New Zealand can adapt to climate change, have enough healthy food for all, and the kind of safe, inclusive society that we all want. ●

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YOUR LEVY AT WORK

INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD

NATURAL RESOURCES AND ENVIRONMENT

Michelle Sands : HortNZ strategy and policy manager

Submission on the Severe Weather Emergency Legislation Bill

The general purpose of the Severe Weather Emergency Legislation Bill is to assist recovery and improve resilience in the areas affected by severe weather events. It helps councils take immediate action by enabling remote attendance at meetings, facilitating planning and decision-making, and allowing for concurrent declarations of states of emergency and transition periods. Specifically, amendments will:

- ✓ ensure emergency powers are available to be exercised efficiently, allowing local authorities an alternative way to provide notice of entry for emergency response activities
- ✓ modify statutory time frames that are not practical for businesses or individuals to meet
- ✓ for a limited time, recategorise certain emergency response activities carried out by rural landowners and occupiers as permitted activities and facilitate planning and decision-making by all local authorities.

“

Planning decisions often focus on short-term environmental impacts and benefits

Horticulture New Zealand spoke to the Select Committee in March, where we supported and welcomed the Emergency Legislation. We sought changes to the provisions to consider the Food Act, to ensure extensions are provided under the emergency legislation and that registration will be maintained so people can continue to trade.

We also spoke about the provisions enabling cyclone response activities undertaken by rural landowners and occupiers on rural land. We supported the provisions and

emphasised the need to repair damage and restore the productivity of growing land responsibly and efficiently. We also asked that the legislation acknowledge that some of this work will take months to complete.

“

We sought changes to the provisions... so people can continue to trade



We pointed out that not all necessary activities will have a pathway under the emergency legislation. A large volume of wood debris from upstream was deposited on growers' land. Some of this wood debris is intertwined with materials that are not burned under normal circumstances, such as coated wire. We accept that specific and careful management of waste is required to manage adverse effects on the air, land and water as well as human health, so the legislation must directly address this cyclone impact. As it stands, the Bill does not enable burning of prohibited materials. An Order in Council will be required to allow the burning of mixed waste.

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

HortNZ spoke to the Environment Select Committee twice on our submissions on the Natural and Built Environment Bill (NBA) and the Spatial Planning Bill (SPA), the first two of three acts that will replace the Resource Management Act (RMA).

HortNZ was invited to speak in early February, as the Select Committee shaped their thinking before all written submissions were received. We asked for the inclusion of food as a “system outcome” and a matter that the National



Planning Framework must address, which would carry down to all regional plans. We also emphasised that the proposed ten-year maximum water consents are not nearly long enough, and activities that achieve system outcomes should be granted longer consents.



Farm systems experts have been working on an alternative approach for vegetable growers

HortNZ went back to the Select Committee in late March, following Cyclone Gabrielle. We emphasised the importance of an outcome in the National Planning Framework to protect highly productive land for primary production and climate change mitigation and adaptation because it is the land most likely to support future generations to produce low emissions food. We argued that this resource should be protected from floods, the adverse effects from upstream land uses, as well as urban sprawl.

We highlighted the impacts of Cyclone Gabrielle on some of New Zealand’s most highly productive land in Northland, Tairāwhiti and Hawke’s Bay. The impacts on this land from flooding show that planning decisions often focus on short-term environmental impacts and benefits, without considering long-term catchment management and resilience to rare events.

Plan Change 2 Mediation on Commercial Vegetable Growing

HortNZ is participating in Mediation on Plan Change 2, an interim plan change to the Horizons One Plan that seeks to provide a consenting pathway for vegetable growers within the target water management sub-zones in Horowhenua and the Lower Rangitikei.

The original Plan Change 2 decision relied on Overseer. In response to the Overseer review, which confirmed the

limitations of Overseer as a regulatory tool, farm systems experts have been working on an alternative approach for vegetable growers to demonstrate that they are managing the risk to water quality from growing vegetables. The new risk tool approach was tested with Levin growers, and HortNZ is working with other parties to agree how the alternative to Overseer can be included within the plan change. ●



Horticulture New Zealand
Board Associate Director

Horticulture New Zealand is seeking an Associate Director to serve and gain experience on its Board.

The appointment commencing in August 2023 would allow the successful appointee to gain experience in governance, leadership and strategy.

This position will suit an applicant who has active involvement in a horticultural growing enterprise giving an understanding of the issues and challenges that horticulture and growers face.

This is a great development opportunity for a future leader with a genuine interest in governance. The Associate Director will have the opportunity to be mentored by an industry leader and receive governance training.

In making the selection, HortNZ's diversity policy will be considered.

The job description can be found at hortnz.co.nz/about-us/work-for-us.

If you are interested in this role, please send your CV and a cover letter to the Board Secretary via email admin@hortnz.co.nz

Applications will close at 5pm, Friday 19th May, 2023, with the successful candidate undergoing induction in July 2023 with their term commencing at the HortNZ AGM on Thursday 3rd August 2023.



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YOUR INDUSTRY



ACROSS THE SECTOR - ACROSS THE COUNTRY



22 LOOKING TO
THE FUTURE AFTER
THE FLOOD





SOIL RECOVERY COULD TAKE TWO YEARS

Glenys Christian



Joe Patterson, right, and Keith de Thierry with a newly sown salad green crop

Pukekohe vegetable growers are still counting the cost of Auckland Anniversary weekend heavy rain followed rapidly by Cyclone Gabrielle. In some cases the damage caused will take up to two years to repair, as soil conditions have to be right to be able to replace soil moved off paddocks during the rains.

"There was a great deal of sediment movement," says Jayant Master, general manager of Masters Produce.

"While that was contained on-farm it still means a lot of additional work and cost to replace it. It will be in the tens of thousands."

Large cultivating machinery needs to be used at a cost he estimates at \$300 an hour. And as wet soil can't be moved, paddocks need to dry out properly before work can start.

"We'll have three people working extra hours for six weeks."

In mid-March he was hopeful that with a clear run of weather the work would be completed within a month and staff could get back to the work they would usually be doing at this time of year.

"But we may not be able to get to where we want to be so we can cultivate the ground before winter."

In that case soil removed from paddocks may need to be stockpiled to be put back on paddocks next summer, or the one after when crops aren't growing and when weather conditions allow.

With up to 120 silt traps on their farms, some as large as an Olympic-sized swimming pool, he has prioritised clearing the silt out of those around the exterior boundaries of their farms.

"We'll move on to the interior ones next. Topsoil is our livelihood and it takes 30 years to make, so we've got to retain the eight to ten inches that we have."

The company crops just over 800 hectares at Bombay and Pukekawa, of which around 20 percent is leased. Potatoes make up half of their crops and onions 30 percent, with



Kirit Makan says growers are trying to continue with planting programmes – “but you don’t really catch up”

barley grown as the main rotational crop along with phacelia, buckwheat and ryegrass mixes. Greens are grown on the remaining 20 percent of land, mainly lettuce and broccoli. In a fortunate move, that planting programme had been delayed by three weeks, but there were seedlings on hand waiting to go into the soil.

“We dumped them because they were past their best, and reordered.”

Delayed harvesting of crops also has economic repercussions and lower yields are already being seen with potato crops.

“But I’m more concerned about the ones which are still growing,” he says.

“It can be catastrophic if they’re under water for a few hours.”

He’ll have a better gauge of the health of the main crop potatoes within the next few weeks.

“We aren’t out of the woods yet.”

With onions the wet season then heavy rain caused some cosmetic soil staining.

“And we were right in the middle of harvest so that caused delays.”

A double shift was put in place in the packhouse with 22 extra workers added to the 28 already employed there.

“January and February are our window of opportunity. We have to meet the market at a certain time, which has been a great challenge.”

Further damage which may only become apparent in storage or while the crop is being shipped to European markets may add to losses.

The main wind damage was to 70ha of barley grown as a cover crop, which was knocked down, leading to a 40 percent drop in yield.

Jayant says he was already risk averse, but there’s been a



Joe Patterson, right, and Keith de Thierry with a newly sown salad green crop

paradigm change in eliminating unnecessary risks.

“Soil preparation is very important and how we prevent it moving by using the tools available to us.”

He sees vegetable growing as a vibrant industry that’s forever changing, with a need to achieve improved yields and productivity in a sustainable manner in the future.

“We can’t lose sight of that. And we’ll only keep people in the business if they can reinvest, otherwise it’s not going to grow and improve.”

Simon Wilcox, operations manager, growing at AS Wilcox, says the company fared better than many other growers.

“There was little to no onion movement and we’d finishing harvesting potatoes at Pukekohe.”

The second crop grown at Matamata was more affected by the generally wet growing season, as was broccolini.

Repairing the damage caused particularly by the Anniversary weekend rain had meant that silt traps had to be cleaned out for a second time, with much more of this work than usual being carried out.

Pukekohe Vegetable Growers’ Association (PVGA) president, Kirit Makan, says growers busy putting soil back on their paddocks were using a combination of their own machinery and where that wasn’t large enough for the job, contractors were being called in.

“Anything that’s been washed off has to be put back to fill up any ruts,” he says.

“We don’t normally to have to do this, but it’s got to be done before cultivation.”

They were trying to continue with their planting programmes – “but you don’t really catch up.” Planting of greens and salad crops would have been pushed back by perhaps four to five weeks, meaning present shortages could be ongoing, particularly with the shortage of supply from cyclone-affected Hawke’s Bay and Gisborne growers. ●

CHALLENGES MOUNT FOR YOUNG GROWERS

Young growers Joe Patterson and Keith de Thierry say there have been more issues planting the 40 hectares of leafy greens they're involved in growing this summer than there usually is over winter.

It was already an unseasonably wet year for Pukekohe before the late January heavy rain, then Cyclone Gabrielle.

"Usually we can say we'll plant a crop next Tuesday," Keith says.

But after the rains there was half a hectare they couldn't touch for a week until the soil dried out properly, which in turn squeezed other work plans.

In some areas 400 millimetres of rain was recorded in just 48 hours.

"That wiped out new growth, then the new roots were cooked so they weren't growing," Joe says.

The free-draining soils on Pukekohe hill cropped by JJB Produce got off pretty lightly, but at another growing area near Patumahoe they estimate that in one paddock of leafy greens 80 percent suffered patchy damage.

"We cut what we could, but a chunk of them couldn't be harvested," Joe says.

"We plant every week, so it's better to lose 10 cents rather than \$1. You can't jump in and out of different lines to keep your customers happy, and your time's restricted."



There was some slight wind damage to broccoli crops, with muggy weather after the rain and cyclone causing an increased risk of disease problems, meaning more sprays had to be applied.

While the likelihood of similar future events has to be kept in the back of their minds, they say they're more worried about labour shortages "across the board" at present. They could do with double the workforce of four employed at present, and say that's the biggest limitation on the business growing larger. They describe a skilled worker as "someone who turns up."

Shortages of some supplies mean there's no more just popping down the road to get a particular agrichemical. And steep increases in the prices of fuel and fertiliser also make growers' businesses more vulnerable to any future shocks. Compliance requirements also play their part in increasing stress levels, Keith says.

"If it's not one thing, it's another."



PLANT FOR SUCCESS

Wakatipu

Vigorous crisphead for winter harvest. Very uniform head of flat round shape. Blistered dark green leaves with good internal colour. Harvest late June – mid September dependent on region. Well wrapped to protect against frost. Resistance to BI 1-27,29,30,32.

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Aspirata

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PLANT PASS BIOSECURITY - INCREASING RESILIENCE AND TRUST

Elaine Fisher



Lynwood Avocado Nursery in Northland is Plant Pass certified

Registrations for Plant Pass, the new voluntary biosecurity certification scheme for New Zealand plant producers, have so far exceeded expectations, says Matt Dolan, chief executive of New Zealand Plant Producers Incorporated (NZPPI).

Seventy-four producers are now registered under the scheme launched last year to recognise good biosecurity practice and provide assurance for plant buyers.

The aim is to have 110 producers registered by 2024. There are approximately 200 commercial nurseries in New Zealand of which 150 are NZPPI members, representing about 80 percent of the plant production sector in the numbers of plants being produced.

Worldwide there has been a focus on the importance of biosecurity practices in nurseries, which has led to the development of biosecurity schemes in Australia, Europe, Canada, the United Kingdom and United States. Plant Pass is New Zealand's version of these standards.

"Taking a proactive approach to biosecurity helps to protect New Zealand's economy, unique natural environment and way of life," Matt says.

Plant Pass is a certification scheme that recognises plant producers who demonstrate an understanding of the practices that support plant health and have met the Plant Pass standard. It also provides assurance to customers that plants have been protected and raised using the practices that support good biosecurity.



Molly Shaw (left) and auditor Elena Ellis checking drainage in viola potted colour at Zealandia in Christchurch

“It takes a systems approach to biosecurity to increase resilience and trust. Protecting plant buyers and producers enables safe movement of plants and drives associated economic, environmental and social benefits to New Zealand.”

The structure of the Plant Pass scheme is similar to the GAP (Good Agricultural Practice) programmes that operate in other parts of the horticulture industry. The scheme consists of a core (generic) standard and checklist which covers hazards common across a wide range of nurseries, plus measures and guidance to help manage the risks. Key elements include training, hygiene, crop protection, monitoring and traceability.

“Our goal is that Plant Pass certification will enable nurseries to meet a range of biosecurity standards with a single certificate. It has equivalence with schemes such as the Avocado High Health Scheme (AHHS), Grafted Grapevine Standard and the Kiwifruit Plant Certification Scheme.”

Plant Pass offers specific modules to meet new standards for regulated diseases like myrtle rust and kauri dieback.

This is for nurseries supplying native seedlings for forestry and environmental planting.

“Taking a proactive approach to biosecurity helps to protect New Zealand’s economy, unique natural environment and way of life”



The Plant Pass website includes a register of the nurseries that are part of the scheme. As Plant Pass is a voluntary scheme it relies on growers supporting the scheme and requesting certification from their seedling suppliers.

Brendan Gould, chair of the Plant Pass Governance Group and Biosecurity Manager for the NZ Forest Owners Association says the forestry and horticultural industries have a shared interest in the outcomes that Plant Pass offers in terms of reducing the risk of spreading new or already established pests and pathogens through the nursery pathway.

Horticulture Conference Week

31 July – 4 Aug | Te Pae Christchurch Convention Centre







Registrations have exceeded expectations, says Matt Dolan, chief executive of New Zealand Plant Producers Incorporated

"The ultimate goal would be to have all nurseries participating in the programme and we will strive to meet that challenge. Plant Pass is a voluntary scheme, and it may take some time before we get buy in from the different sectors within the industry from large corporate nurseries to smaller businesses to nurseries run by volunteers growing plants for habitat restoration.

"Nurseries are at the core of all plant-based sectors and if any biosecurity risks do get into nurseries they can spread very quickly, so it's important that we work to reduce this risk and the potential impacts that they might have."

Triggered mainly by the outbreak of the fungal disease myrtle rust in New Zealand in 2017, Plant Pass was established after three years of research, and is funded and organised jointly by the Ministry for Primary Industries (MPI) and primary sector industry bodies through the Government Industry Agreement (GIA). The GIA Operational Agreement partners are MPI, NZ Forest Owners Association, NZ Avocado, Kiwifruit Vine Health, NZ Winegrowers, Citrus NZ, TomatoesNZ and NZPPI.

Brendan says that the Plant Buyers' Accord was established to allow plant buyers to send a clear signal to plant producers of their preference to source plants from certified nurseries. "This would enable them to have greater assurance that any potential biosecurity risks associated with the plants that they buy are being well managed. This in turn will help incentivise plant producers to become certified under Plant Pass."

Accord signatories to date include MPI, New Zealand Avocado, Kiwifruit Vine Health, Department of Conservation, Auckland Council and Waikato Regional Council. New signatories are expected to come on board in 2023, including plant retailers, other government



Seventy-four producers are now registered under the Plant Pass scheme, including Auckland Botanic Gardens

agencies and sector advocates, and agencies that own nurseries.

Leanne Stewart, chief executive of Kiwifruit Vine Health (KVH) says the kiwifruit industry takes a very proactive approach to biosecurity management. "Last year we introduced the new National Pathway Management Plan (Pathway Plan) which sets out requirements for the movement of risk goods, including plants, which nurseries can meet through certification schemes such as our own Kiwifruit Plant Certification Scheme (KPCS) and now Plant Pass. The schemes achieve an equivalent level of risk management, which gives nurseries options."

"As a whole, Plant Pass enables a more consistent approach to sourcing plants, which will protect our horticultural crops and our native and ornamental trees.

"KVH sees this as an excellent initiative to encourage biosecurity uptake across a wider range of nurseries at a level comparable to our own effort," Leanne says.

New Zealand Avocado deputy chief executive Brad Siebert says the industry encourages their growers to purchase avocado plants from Plant Pass certified nurseries. Alongside this, New Zealand Avocado is requiring all avocado nurseries to meet the Plant Pass core standard as a prerequisite for the industry's own nursery standard (AHHS).

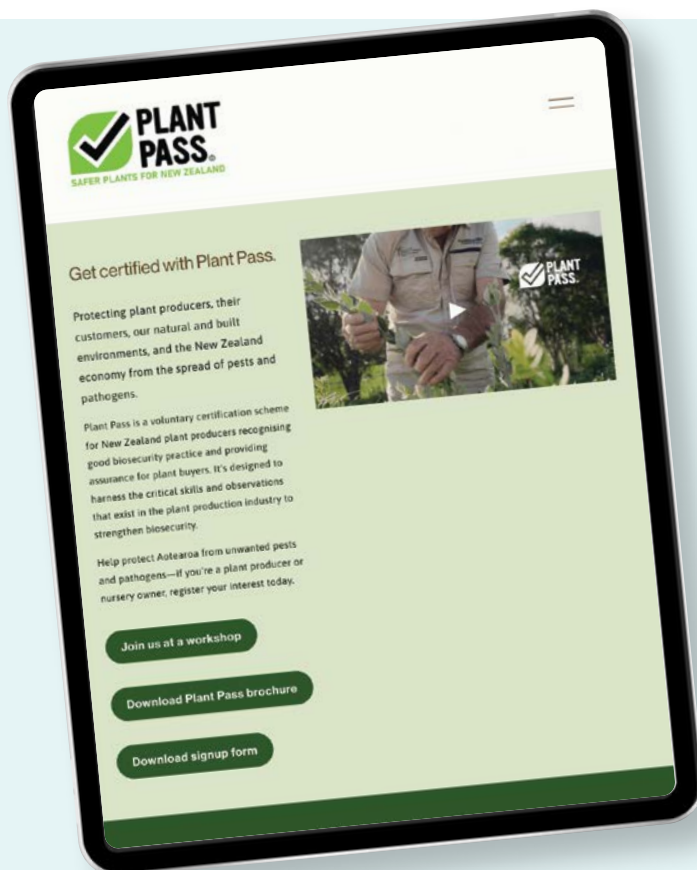
"We see Plant Pass covering everything required for biosecurity risk mitigation in nurseries, making our industry level standard very complementary to Plant Pass. It streamlines the whole process from administration through to reduced auditing costs, and makes achieving good biosecurity more straightforward while providing a higher level of assurance." ●

PLANT PASS:

- i Is a voluntary Nursery Biosecurity Certification Scheme
- i Is a single system recognising good biosecurity practice and managing the complexity and diversity among plant producers
- i Provides a framework for end-to-end risk management from nursery inputs, through production, to plant buyers and their environments
- i Increases plant producer responsiveness to pest threats, before nursery stock is distributed to its customers
- i Strengthens traceability
- i Strengthens nursery hygiene measures, pest risk management and establishes certified plant producers as trusted suppliers



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PIOPIO'S ROADSIDE BERRY BUSINESS

Geoff Lewis

Photographs : Trefor Ward



Angela and Mike with Albion strawberries

The King Country is not known for horticulture. The up and down landscape is better suited to the sort of agriculture that runs on four legs.

That's what makes Piopio Berry Orchard special and a surprise to find on the road to Taranaki.

It's a busy hub at the end of a rank of signs advertising strawberries, blueberries, raspberries, blackberries - along with the coffee, smoothies and ice creams essential to berry growers today.

Behind it are Mike and Angela Roy.

Mike comes from an apple-growing background, having obtained a horticultural qualification through Massey in the 1980s. Mike and Angela ran their own orchard at Ohaupo ten minutes south of Hamilton on SH3, which is still landmarked by two 2.5m cartoon cows Mike built near the roadside.

In 1993 they bought the Piopio site 20 minutes' drive south of Te Kuiti and just a few clicks from the settlement of the same name, and ran both operations for two years.

The orchard was originally planted in the 1980s. When we bought it we sold fruit, vegetables and berries but then we decided to concentrate on berries.

"When we got here it had a 4ha block of blueberries and a small orchard with older varieties cultivated using the

old-style 'Lincoln Canopy' method. We dismantled it and re-used the materials."

Today, Piopio Berry Orchard comprises 6ha of blueberries, all under bird netting, 2ha of strawberries - with half of the varieties (Albion and Monterey) under tunnel housing and the other half (Camorosa) in the open, and a couple of hectares in raspberries and blackberries.



It's a very simple business, we grow, sell fresh or freeze



In a 'normal' season Piopio produces around 50 tonnes of strawberries, 30 tonnes of blueberries and five tonnes of raspberries and blackberries. The aim is to grow more berries under cover in tunnel houses. This is to extend the fruiting period and match it to the time the orchard's shop is open during the year.

"We sell fresh berries and a lot as frozen product. Our usual problem is we don't have enough to meet demand," Mike says.

Harvesting is by local workers, Angela explains.

"When we started here people told us we were mad and that we'd never get enough labour. But we found the local community was very supportive. We employ about

Send us your nominations for the

2023 Horticulture Industry Awards

HortNZ is calling for nominations for its 2023 Awards to be presented at the Horticulture Conference Gala Dinner.

HortNZ will present up to one award in each of the following categories each year.

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INDUSTRY SERVICE AWARD

To recognise people with long and dedicated service in a supplier or service role (not a grower) that have worked beyond the call of duty for the betterment of the horticulture industry.

ENVIRONMENTAL AWARD

To recognise a person, or organisation, that has developed and implemented a sustainable environmental project, with identifiable benefits.

HORTNZ LIFE MEMBER

To recognise growers with long and dedicated service as office holders of HortNZ and/or an affiliated Product Group or affiliated Grower Association.

Full criteria for the above awards are available on the Horticulture New Zealand website or can be requested from the Board Secretary.

Who can make nominations?

- Any grower member of HortNZ, an affiliated Product Group or an affiliated Grower Association can make nominations.

How do I nominate someone?

- Complete a nomination form. These are available on our website www.hortnz.co.nz or can be requested from the HortNZ Board Secretary via email admin@hortnz.co.nz or by phone **0508 467 869**.

When will the awards be presented?

- At the 2023 Horticulture Conference Gala Dinner on Wednesday 2 August 2023 at Te Pae Christchurch Convention Centre.

When do nominations close?

- Nominations must be sent to the HortNZ Board Secretary, via email admin@hortnz.co.nz or PO Box 10232, Wellington 6140 and must be received by **5.00pm on Tuesday, 6 June 2023**.

**Send us your
nominations now!**



Tunnel houses housing Albion strawberries

80 people at the height of the season in January, pickers and packers, with eight to ten in the shop. Some are students from Piopio and Te Kuiti colleges. People will ring us up to get on the list.”

The workers are a flexible bunch and can be back and forth between picking, packing, working in the chillers or shop all day. More than 95 percent of product is sold to passing traffic, Mike says.

“It’s a very simple business, we grow, sell fresh or freeze.”

Piopio Berry Orchard is open from October to late April and closed during the winter months. Only three years ago did Mike and Angela manage to get a holiday in summer for the first time.

When it comes to horticultural pests, Piopio is saved by its isolation, Mike explains.

“There’s no one else doing the same thing in near 100kms in any direction, with the advantage being we don’t get infested by pests from other operations.”

This area of the King Country is limestone, and Piopio Berry Orchard rests in a wide valley of fertile soil consisting of the famous volcanic Mairoa Ash. While it gets enough rain, it hasn’t suffered from any significant floods so far – and only

received a few drops of rain during the Cyclone Gabrielle event.

The climate can be a bit hotter in summer than comparable spots, but winter can be cold and turn up a few frosts.

“
When we started here
people told us we were
mad and that we’d never
get enough labour



This season’s weather, devastating in other regions, has also had its effects on Piopio both negative and positive.

Production is running three weeks late, freezers and coolstores which should be full at this time are half empty. The Antarctic blast in October last year – the coldest snap in about 25 years, Mike says – burned the flowers and greatly reduced and retarded the fruit-set.

On the upside, the orchard is on the main road south to the ‘Naki’.



Mike Roy checking nutrient levels and dosing schedule for hydroponics, (equipment supplied by PGO Horticulture in Tirau)



Angela Roy using recycled coir from strawberries to grow asparagus

"Something we have noticed is increasing numbers of tourists," Angela says, "probably as they can't go north or to Hawke's Bay (due to the cyclone damage) so they're heading south and west."

Fifteen years ago they installed a commercial grade kitchen and expanded what was the little roadside shop into an outlet for coffees, ice cream and muffins. This has led to a general uptick in business.

A new development is asparagus, using surplus coconut coir growing medium previously used in the hydroponic tunnel house strawberries. A trial of asparagus fern has been planted in two 50m raised beds. The plan is to extend and cover these too.

Mike and Angela take great joy in their four children, with two sons in the middle, one in the army and other in marketing, and the girls Jessie and Maggie, the eldest and youngest, add their own skills. Jessie helps on the orchard and Maggie is an accountant and has been taking care of the paperwork from Sydney.

The Roys love the lifestyle, says Angela.

"We're still active and healthy and can do anything. The kids help at Christmas and the locals are fantastic. It is time consuming and we do get tired, but not too much. We sometimes think about what else we'd like to do but our heart has been here all our married life." ●

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WATER, WATER EVERYWHERE, BUT NOT A DROP TO PROCESS



Cedenco general manager of Gisborne operations, Mike Upston, says the cyclone couldn't have happened at a worse time

In Gisborne they had no water. In Hastings, no power. Reporter KRISTINE WALSH learns how one of the country's largest food processors weathered the storm.

There is a formula Gisborne processor Cedenco Foods uses when calculating losses of crops across its product groups.

"In the case of Cyclone Gabrielle, we had the initial crop losses from the storm, which we're putting at about 35 percent," says managing director Tim Chrisp.

"Compounding that was the post-Cyclone water crisis experienced across the region. Not being able to process meant crops deteriorated in the fields, adding to the immediate losses.

"And compounding that was the very high water table due to the amount of rainfall even before the storm. Not many crops, especially arable ones, like wet feet, so that already had an impact."

Then there's the future impacts for a company that, with around 400 staff is one of Gisborne's largest employers, contributing an estimated \$65 million to the local economy.

"An operator our size needs to plan planting very carefully, down to the day of harvest, so the effect on crops now is going to be keenly felt going forward."

Cedenco is also a grower, producing about a quarter of its own product on farms across Gisborne, Hawke's Bay, Wairarapa and Manawatu.

And as a processor it is at this time of year putting large volumes of sweetcorn, tomatoes and squash through its Gisborne plant, while over at the new, purpose-built facility in Hastings, it processes apples and oats.

But just days after Gabrielle hit Gisborne on the night of 13 February, major blow-outs were found in the city's water supply system and all industrial users were instructed to stop work.

"At the time we were at the peak of harvest with the factory operating 24/7 processing sweetcorn, squash and tomatoes, so it couldn't have happened at a worse time," says Tim.

"It wasn't just about getting any water, either. As a food processor we have to meet very stringent international standards so any water we used had to be of good quality, and many customer specifications prohibit the use of recycled water. Customers come to New Zealand to buy our products based on our reputation for being clean and

green, and that includes having an abundant supply of fresh, clean water."

The company has in recent years spent millions on its water and wastewater systems and that, combined with halting its frozen sweetcorn processing in 2021, has helped reduce its water demands by around 50 percent.

But there is a difference between low-water and no-water, and with no idea of when Gisborne District Council could again supply potable water, the team swung into action.

“
For many of our team members these jobs support them for the entire year



"We had to set up temporary treatment systems on site, which was a huge undertaking, and by accessing irrigation water from supportive farmers were able to tanker water from farm bores to our facility for treatment."

With the new system in place, Cedenco was able to recommence harvesting and processing sweetcorn by 1 March by producing 25 percent of its usual water requirements.

As that water production increased to close to 80 percent, tomatoes came on stream a week later, and squash two days after that.

So while the first fortnight after the cyclone had been spent supporting seasonal staff who had lost their incomes, by mid-March the "we're hiring" signs were out once more.

"For many of our team members these jobs support them for the entire year, and some have worked for us for more than two decades," Tim says.

"So it's been great to have them back on site and their excitement and enthusiasm in getting the plants back up and running has been infectious."

But while the plants were running by mid-March, Cedenco was still only able to draw about 25 percent of its usual consumption from the city supply, reinforcing the value of those early actions to produce its own treated water.

"It's all going to come at a big cost, but we had to do all we could not to add to already significant losses for ourselves and our growers."

Meanwhile, over in Hawke's Bay, the site was also at its peak processing season for apples, but eight days without power put a stop to that.

Cedenco Hastings is also faced with the challenge of sourcing product: NZ Apple and Pears believes around 2100 hectares of apples in the region have been or will

be lost, and about 1800 hectares are damaged but "workable," representing nearly 50 percent of plantings in Hawke's Bay.

"We still don't know what sort of fruit will come off trees affected by things like standing water, and we won't know until the packhouses are in full swing," Tim says.

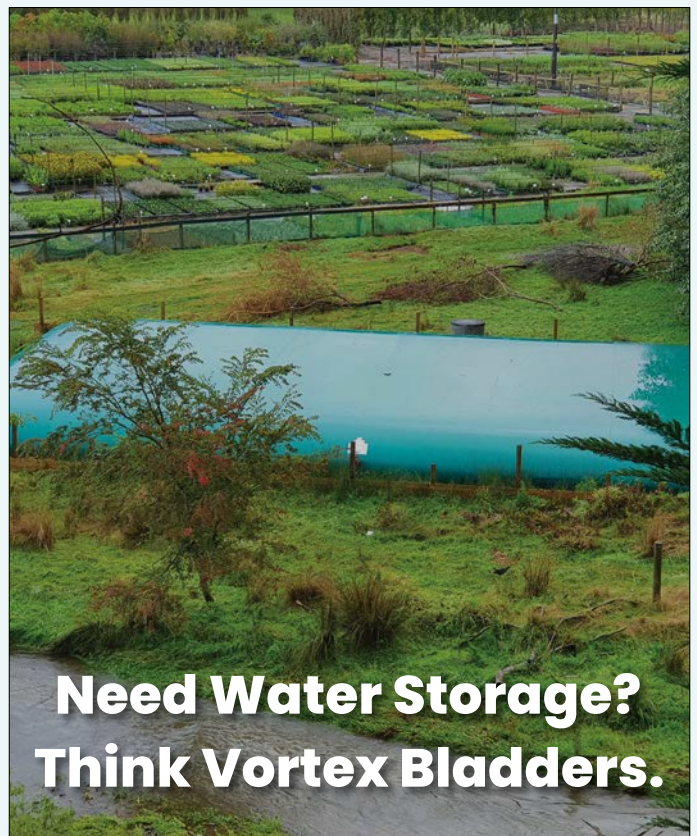
"Because we use Class 2 fruit we might get adequate volumes, but while that would be good for us, it's a bad outcome from the industry perspective and we'd rather see everybody getting what they need."

Across both the Gisborne/Tairāwhiti and Hawke's Bay regions it's clear Cyclone Gabrielle was a "very significant" event and government support will be needed for the recovery, says Tim Chrisp.

"Without that support we'll likely see the landscape change as arable farmers will have no option but to take a step back.

"The industry has flourished in the 35 years since Cyclone Bola, and the taxpayer has made a very good return from its investment supporting farmers in that event.

"Once again, we've really got to work to weather this storm together." ●



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YOUNG HORTICULTURALISTS LOOK TO THE FUTURE AFTER CYCLONE GABRIELLE



Kurt Livingston of Fern Ridge Fresh says getting produce exported in a timely manner has been tough

In Hawke’s Bay the horticulture sector needs young growers more than ever. Far from disheartened, the next generation believes in new solutions, as BONNIE FLAWS discovers.

“The devastation is probably larger than what we were initially thinking it was,” Brittany McCloy tells me.

The young horticulturalist normally works for Apatu Farms as a labour strategies and solutions manager, but has been seconded to Hawke’s Bay Vegetable Growers Association to do work assessing the impact of Cyclone Gabrielle on the region’s vegetable crops.

“The amount of horticulture businesses and employment that sits in the geographical area of the flooding is immense. A lot of businesses are in a tough situation and

have to make decisions about how they will continue.”

In the first weeks after the storm, Brittany’s time was targeted at contacting growers to determine the extent of their losses. Now, she’s part of a grower task force working to inform the government of how vast the damage has been.

“I think government are very much in the same boat as us in trying to understand how severe the impact is and what the tangible things are that are needed for recovery,” she says.

Brittany is one of a cohort of young people working in horticulture in Hawke’s Bay who will be integral to the sector’s recovery and rebuild. The 26-year-old is clearly a passionate professional, who speaks with confidence and clear commitment to the job, despite only having been in the Bay for a year.

She says what growers need most right now is certainty of government support. The diversity of operations that have been affected and the range of impacts are vast – no two cases are the same she says.

Some growers are finding it really hard to think about how they will pay employees or whether they should continue to invest in clean-up costs when they don't know if they will be able to recoup any of that. To date the primary sector has been allocated a total of \$51 million for the initial recovery, but this isn't enough given what growers are facing, she says.

"Without certainty of whether or not government will offer some form of support how does a business make decisions and how does a bank have confidence in that business, especially the worst impacted who may not have any harvest left to salvage, or may have lost capital expenditure such as orchards that they would need to rebuild?"

The recovery of the sector hangs on this question. There is plenty of will to build back even stronger than before, and with the right support growers could even improve their systems and integrate more forward-looking production systems, she says.

Brittany remains committed to horticulture, despite the hard slog ahead, and says there are opportunities for young growers. In fact, for young people interested in a career in horticulture, now would be an excellent time to get in.

"All these orchards are going to need to be redeveloped and that is a really cool process to be a part of, and if you are a young person who's keen as, there's heaps of opportunity there. Equally with maintaining those properties long-term and moving towards management type roles.

"It may not be what some people thought they were getting in for, but crisis breeds innovation and the ability to think differently. [Young people] don't necessarily have the baggage of the past and can think differently about problems that growers have faced for the last 20 or 30 years."

Rebuild opportunities

On the export and sales side of things, 28-year-old Kurt Livingston of Fern Ridge Fresh, says the season has really cranked up as fruit growers try to salvage what they can. Around 80 percent of orchards still need to be harvested, and have suffered varying degrees of damage.

"But you have to get what you can out of them, as growers need the income. The market has been pretty tough for the last couple of years and this was not needed. In most cases our growers were alright in areas not affected by river floodwater or major silt. The best thing to help them with was get on and sell their fruit."

“

"If you are a young person who's keen as, there's heaps of opportunity there."

BRITTANY MCCLOY



“

"When you have a blank canvas people are more willing to try new things."

KURT LIVINGSTON



“

"It reinforces that this is the place to be as a young person."

JACK WILSON





The company normally exports around 700,000 TCE (tray carton equivalents) a year, but this year volume will obviously take a hit.

Shipping is still a mess, and getting produce exported in a timely manner has been tough. For about ten days after the storm there were no boats in and out of Napier Port, and packhouses were without power. The company's logistics plan changed dramatically as they were forced to truck apples up to Tauranga instead of Gisborne, and across another really dodgy storm affected road.

"Damage to the infrastructure all over Hawke's Bay has made it a real challenge to get around. The bridges not being operational makes container deliveries to port or picking up bins and delivering them to the packhouse chaotic. We have growers all around the region and in all areas."

Despite all this, Kurt says he's more passionate than ever. He's found it heartening to see the industry come together as a community to support each other and volunteer on each other's clean-ups. Even the Nelson growers reached out to Hawke's Bay and sent up diggers to assist.

"It is going to be a really challenging next few years as the industry faces rebuild, so mentally everyone needs to be prepared for that, but we have some great people in the industry who are driving that positive energy and there are still some amazing opportunities.

"I think there will be a lot more innovation and adoption of new technologies moving forwards. When you have a

blank canvas people are more willing to try new things. But this will come at huge cost. Not everyone will want to take on this big rebuild."

Kurt says there's likely to be some natural attrition in the aftermath as growers grapple with the costs of getting back to where they were. There will be at least a ten-year period of cleaning up, redevelopment and waiting for new trees to come into full production.

New science from disaster

AgFirst horticultural consultant Jack Wilson works in the area of precision agriculture, and will likely be involved in introducing some of those new technologies as they come online.

"I deal with a lot of trial work, testing a whole lot of theories that growers have or we might have, and then I do a whole lot of consultant or project work," the 27-year-old says.

"All of that continues for the most part, but I suppose [since the storm] there has been another element in our role which is assisting growers affected by floods, looking at silt levels around trees.

"We are figuring out that a lot of these growers are having similar issues but going about it differently, so a lot of our work has been around consolidating those ideas and finding efficiencies, as well as assisting them with technical advice around the tree's physiology."

In fact, Jack says there is a lot of new science coming out of this disaster, particularly around the role of silt and how



it can stress the tree. These new understandings can be applied in any future flooding situation.

He sees part of the role of young people in the future will be to bring in new technologies and science that will increase productivity, while also keeping in mind the vulnerabilities that the flooding laid bare.

“The importance of that just becomes higher and higher. You know, a young brain is quite often a fresh brain, so bringing all of that sort of information will really benefit the industry.”

But he’s also learning a lot from the existing leaders within the industry, whose resilience he says is amazing.

“The attitude is very much ‘this has happened so let’s get on with it and keep going as quickly as we can.’ For someone in my position that’s relatively new in the industry, it’s great, because it reinforces that this is the place to be as a young person. There is so much to learn from these people with that attitude, doing a job as difficult as this.” ●



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SUPPORT FOR HARD-HIT KŪMARA GROWERS



Warwick Simpson's flooded kūmara paddocks on 15 February



With crop losses mounting, growers need support to keep kūmara on New Zealand's dinner plates

It's been a series of blows to kūmara growers in Northland with Cyclone Gabrielle's heavy rainfall destroying plants and crops when the industry is already under pressure. HELENA O'NEILL takes a look at how kūmara growers are faring.

Heavy rain and Cyclone Gabrielle have hit Northland kūmara growers hard, adding more pressure to an industry facing rising costs of production, waning consumer demand, and continuing labour shortages.

Warwick Simpson of Simpson Gardens Ltd grows on 37 hectares at Ruawai south of Dargaville.

He says the most extreme flooding has resulted in obvious crop loss that can be seen in the dead plants – roughly one-third of the industry's crop.

"We're moderately lucky here in that we haven't had all the silt and slash and infrastructure damage like the Hawke's Bay. Stuff got flooded and that's killed our crops."

Warwick's father Jim has been growing kūmara for more than 50 years and has never seen the area hit by flooding like this.

"Dad hasn't seen flooding as bad as this before. Cyclone Bola in 1988 got close, but this is the worst it has been."

Warwick says the harder part to quantify is the areas that were flooded to a lesser degree where plants were left alive but the water caused a large portion of the tubers to rot underground. This loss will become clearer as harvest progresses during the next few months, though higher than-normal losses are expected due to rotting in storage.

"Growers are looking around to see what's under the soil now. I know with some of my paddocks, they look pretty good on top, full of green leaves and looking nice and healthy. Then you dig into the row and it's full of rotten tubers."

"Mid-February is usually when some growers make a start on harvesting. So it's probably the worst time for a cyclone to come. Mid-season you have a bit of time for plants to recover and you can get something from them, but there are lots of paddocks out there that were just due to be harvested."

Even before the flooding, most kūmara growers were expecting a tough season. Poor weather during planting season meant growers only planted around 70 percent of the usual growing area.

"With the rough weather in the planting season, we only managed to plant 22 hectares," he says.

Warwick, who has a few different industry roles, says the Northern Wairoa Vegetable Growers Association, Vegetables NZ and Horticulture New Zealand are working together to organise support for growers.

"We are getting a lot of support from the industry, both Vegetables New Zealand and Horticulture New Zealand have really come out to support us with what we need to do ... Northland Rural Support Trust is doing some really amazing work up here."

Northland Rural Support Trust chair Michelle Ruddell says the trust's mission is to ensure rural communities are supported. The branch covers from the Auckland Harbour Bridge to the Far North, so it's a diverse area.

"The key thing that we've tried to do with kūmara growers is to make sure they're connected, and connected with each other."

In early March the trust organised a collaboration lunch to pull growers together over a meal while also outlining the support available and learning what kūmara growers need to move forward.

"The feedback is that the growers really thrived at the lunch and they want to do it again. It's an opportunity to get off-farm and take a moment to reflect and talk.

"It has to be what kūmara growers want and need, and that's what we'll support. We also have AgFacilitators on the ground in Kaipara who can provide one-on-one support. We've also been providing care packages to both farmers and growers."

Other regional Rural Support Trusts have offered their help and have sent AgFacilitators to aid the response in the short term.

Michelle says it's a reminder that keeping connections not only boosts morale but also supports good mental health.

Industry groups are aware growers were already in a challenging position due to record low prices for kūmara last season, so short-term recovery efforts are around grower welfare and making sure they've got what they need to keep their businesses running, Warwick says.

Work is also underway to investigate creating a seed contingency scheme, but this is reliant on secure funding.

"With losing that crop, you've also lost a lot of your seed for next year. Or at least if you've got some crop you're going to keep it for seed for the next year instead of selling it. So you can't sell and you're not getting the income. We're working to make sure growers will have the seed they need to be able to provide the usual amount of fresh kūmara next season."

Warwick says the big challenge facing kūmara growers will be keeping their businesses operating after their main source of income for the rest of the year has been significantly lost. Some growers have lost up to 100 percent of their crops and it will be crucial that they get the necessary support so they can keep feeding New Zealanders, providing employment and supporting the local economy. ●



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DEFYING THE ODDS

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Eleven years ago, Troy Hall suffered a near-fatal accident on an avocado orchard. A long and challenging recovery followed. Now he's sharing his story to make sure other horticulture workers 'grow home safe'.

By his own admission, Troy Hall had a tough upbringing. "It was an underground world of drugs and alcohol and following the wrong people. That was ten years of my life."

As the pull of that world waned, Troy made a concerted effort to get his life back on track. In 2011, he headed to Tauranga to pick avocados with his father. But less than a month into the job, he suffered a devastating setback. He was electrocuted twice while using a ladder nearby 110kV powerlines on the property. The first shock 'killed him'. The second jolted him back to life, but left him engulfed in flames.

"I wasn't expected to survive. I swelled up to six times my size, got through that, but was left paralysed from the neck down."

The initial prognosis was bleak – Troy wasn't expected to walk again. But once again, he defied the odds and after years of physical rehab and struggles with depression, he now runs his own avocado contracting business and is in demand as a motivational speaker.

He says a major turning point was the birth of his daughter, now nine. "She gave my life purpose and is one of the main reasons why I decided to share my story."

“

The reality is horticulture work can be bloody tough on the body

Looking back at his accident, Troy recalls, "Like a lot of people, I took life for granted. An hour or two before it happened, I was right beside those power lines and didn't feel scared at all. My attitude was: 'nothing could touch me'. I guess you could say I was cocky, arrogant, stubborn. But I discovered life can change in a split second and suddenly you're looking up at a hospital ceiling like I was, facing years of physical and mental recovery."

It was a hard lesson to swallow. Troy sums up what it taught him in two phrases – 'self-care and self-respect'.

"When you have both those things, you don't take your life for granted. Instead, you think 'hey, I shouldn't be anywhere near these power lines!'"

Troy admits his former lifestyle was part of his undoing. "When I had my accident, I wasn't eating well, wasn't getting enough sleep, wasn't doing exercise. That all contributed to how I felt. When you're tired or not eating properly, your decision making really suffers. What happened to me was probably inevitable given the lifestyle I lived."

“

In a split second suddenly you're looking up at a hospital ceiling facing years of physical and mental recovery

So now he's on a mission to pass on what the past 11 years have taught him about the benefits of looking after yourself and your team on orchard. This ties in well with a new initiative launched by Horticulture New Zealand called 'Grow Home Safe' which seeks to identify and address key wellbeing issues impacting growers. In 2021, the sector had \$15 million paid out in injury-related ACC (Accident Compensation Corporation) claims. Troy believes there are still many workers in the horticultural sector, and other labour-intensive industries, living like he used to live and at serious risk of accident or injury.

"If I was living the way I used to, I'd still be a complete mess and would never have dealt with what I've been through. My recovery has taught me that good sleep, nutrition and routines to keep the body moving all add up to a dopamine kick that helps you get through challenges. For example, what you put into your body is what you get out. If you're putting good food in, you'll have a lot more energy and your thinking will be clearer."

"The reality is horticulture work can be bloody tough on the body. That's why workers turn to alcohol at the end of the day, because they're sore. But when you do that for years on end, your body's never getting proper sleep, it's not getting looked after properly and you deteriorate to the point where you could be a hazard to yourself or others. I know because I was one of those people and I'm sure there are still plenty of others like I was out there."



Troy Hall in hospital after he was electrocuted twice while picking avocados



After a bleak initial prognosis, Troy Hall is now in demand as a motivational speaker



Troy Hall says the birth of his daughter was a turning point that helped him defy the odds after his accident

"On a cherry picker you can be eight metres up in the air. If you're tired and not paying attention, you could easily miss powerlines or things below. I think there are a still lots of near misses in the industry. It doesn't have to be a traumatic event like I had to put you out of the game or stop you earning."

Troy is quick to point out that as far as he's come on his recovery, it remains a 'work in progress'.

"People who see the 'before and after' shots often tell me it's a miracle I survived, but it doesn't always feel like that to me. My image, how I looked, was always important to me. Now I'm burnt I've had to learn to accept the new me, which at times has been very hard. The gym has been a great escape for me, not just physically but mentally. I gym every day and try and pump as hard as I can."

Troy also acknowledges the importance of other people in his recovery. "Surrounding yourself with good people is essential. If you're doing everything on your own, it's so much more difficult to deal with negative thoughts going through your head. There's a lot of people out there who want to help, but you've got to take advantage of that. I'm as guilty as anyone of not always doing that."

Troy says his dream was always to run his own horticulture business. "I've always liked what the horticulture industry brings to communities in terms of its fruit and produce. Dad helped me start my avocado business when I was paralysed and now we've been going for nine years. The contracting side of the industry's been up and down lately, so I've branched out into sales and am looking to get into the wholesale side. I'm proud of what we've achieved. Now I'd like to give something back to the industry and encourage people to take care of themselves."

Farmstrong asked Troy if he had any advice for growers hit by Cyclones Hale and Gabrielle about how to tackle a major setback.

"I can only imagine how hard it must be for growers who've lost everything in the floods. My advice would be, keep yourself busy, surround yourself with good people and

don't waste time worrying about things you can't control. Just focus on making the progress you can each day."

"My accident is something I'll have to live with for the rest of my life. For me, it's been about accepting that, as best I can, and just getting on with things. That's why I'm so proactive about working on my wellbeing. It's a great way of keeping busy and keeping your mind off negative thoughts."

"It's taken me a long time to learn about self-care and what it takes to have self-care. I was down in the dumps for years. But since I've embraced it, I've had some great things happen and I've slowly learned to appreciate the wins I've had. I've got a beautiful daughter, I'm running a couple of businesses and I'm doing the best I can to help others."

"I used to look at what happened to me only in a negative way. Now I look at it as something I can share to help people. If my story can inspire others and help them overcome their challenges, great." ●



Farmstrong is a nationwide rural wellbeing programme that helps farmers and growers manage the ups and downs of the industry. To find out what works for you and lock it in, visit www.farmstrong.co.nz for free tools and resources.



Grow Home Safe

The Grow Home Safe project seeks to identify and address key wellbeing issues impacting growers. Horticulture New Zealand runs the project, which is predominately funded by ACC through a Workplace Injury Prevention Grant.



TAIRĀWHITI REGIONAL RESPONSE ON THE GROUND

Kristine Walsh

There is a sense of *déjà vu* for Bill Thorpe and Trevor Lupton who, 35 years ago, assisted with analysing the impact on Gisborne's horticultural industry of the ravages of Cyclone Bola.

This time, their work is in response to February's catastrophic Cyclone Gabrielle. And this time they have fellow consultant Elliot Callender on board.

The trio have been appointed by the economic development arm of Trust Tairāwhiti, which was nominated to co-ordinate the overall response by East Coast MP Kiritapu Allan, the recently appointed Regional Disaster Lead for Tairāwhiti and the Bay of Plenty.

Working across all orchard and growing product groups, Bill Thorpe says their work will inform government about the impacts on current and future harvests, while creating a base of information to support what recovery assistance is needed most, and by whom.

"For most growers it will be business as usual, while some will have to start again from scratch, or will have very limited or no crops for the foreseeable future," says Bill.

"So our primary focus will be on the number of affected hectares; what crops we can expect compared to pre-cyclone predictions; and what growers need in terms of post-cyclone actions.

Bill, Trevor and Elliot are in touch with Ministry for Primary Industries (MPI) director-general Ray Smith, Cyclone Gabrielle Recovery Taskforce chair Sir Brian Roche, and independent commissioner for Tairāwhiti, Te Rau Kupenga, to ensure their work best serves the community they represent.

"Our job is to make sure the cyclone consequence for the horticulture sector is fully and accurately reported," Bill Thorpe says. "This will assist government in determining appropriate support for growers."

For his part, Ray Smith flew to Tairāwhiti and Hawke's Bay in early March to view the damage first hand, and meet with farmers, growers and organisations supporting the food and fibre sectors.

The director-general says that bird's-eye view of the scale of the devastation was sobering, but valuable in informing MPI's work.



Crops affected by the cyclone halfway between Te Karaka and Gisborne

"MPI has had significant involvement in the effort to respond to Cyclone Gabrielle, and we have a continuing role to help the recovery.

"It's also important to note that all major primary sector groups, businesses and processors are also doing their best to support their people and members. For example, we are part of daily meetings with Horticulture New Zealand to ensure a co-ordinated approach and information sharing across affected regions."

MPI has staff on the ground in affected areas - with three key regional control centres in Northland, Tairāwhiti, and Hawke's Bay - to provide support and advice to help affected farmers, growers and whenua Māori owners get back on their feet as quickly as possible.

The same day Ray Smith made his flying visit to Tairāwhiti, on 7 March, the Ministry announced a \$26 million boost to the grants programme helping farmers, growers, and whenua Māori owners to re-establish their businesses in the wake of Cyclone Gabrielle.

That brought the total to \$51 million available as first-response grants, in addition to \$4 million to help with urgent primary sector needs not being met by other organisations.

Trust Tairāwhiti has appointed a team with a two-pronged approach to gather data in Gisborne/Tairāwhiti:

- Liaising with product representatives like Zespri, NZ Apples and Pears, and the NZ Buttercup Squash Council, who have been undertaking their own investigations.
- Conducting a survey targeting more than 170 growers to identify how they have been impacted, what effect that will have on their 2023 harvest, and what they expect to see in the months and years to come.



“The sense of community spirit we are seeing across affected regions is incredible (but) it’s clear that, for many, the recovery from Cyclone Gabrielle will be complex and will take time, and we must continue to work together to help people.”

MPI DIRECTOR-GENERAL RAY SMITH

MetService records from the Gisborne airport weather station have registered the wettest January on record since 1937, and with the help of Cyclone Gabrielle, the wettest February as well, says meteorologist John Law.

That means in January and February of 2022, that part of te Tairāwhiti - on the border between the city and the Poverty Bay Flats - received just 28.3 percent of the rain that fell in the same months of 2023.

Near half of the total for February 2023 - 195.8mm, or 46 percent - fell on 13 February, the night Cyclone Gabrielle hit the region. The rainfall for that night alone was just over a quarter more than the total rainfall for February the year before.

In the months of January and February 2023 Tairāwhiti received a total of 676.6mm of rainfall, 485.4mm (over 2.5 times the volume) more than in the same months the year before.

And those aren’t even the big numbers. The heaviest rainfall - sometimes more than twice that recorded at the airport - is seen in the ranges around Gisborne, away from the main horticultural growing areas.

MetService acknowledged that due to outages, the airport station had missing data between 10pm and midnight on 13 February, and some missing through the following day.

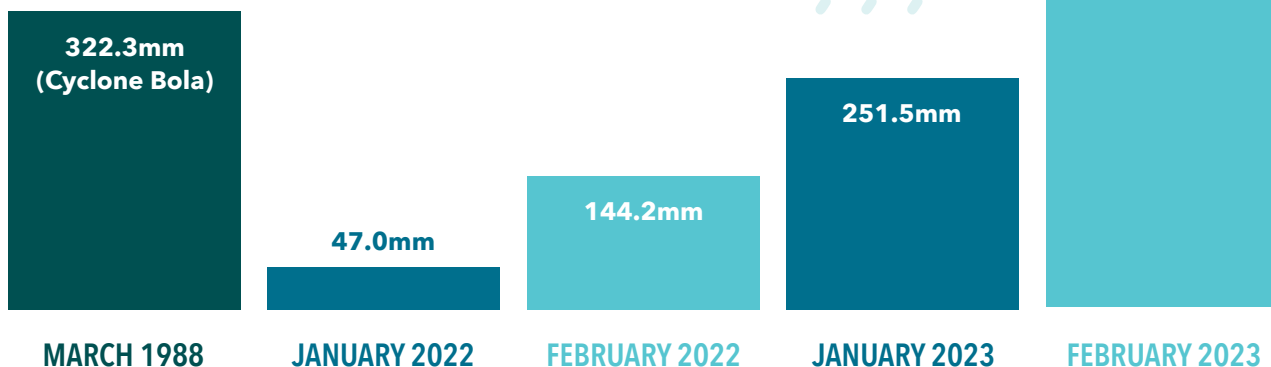
However, comparison with a neighbouring station on the Poverty Bay Flats showed only about 30mm had gone unrecorded.

That neighbouring station recorded rainfall of 256.2mm for January 2023 and 454.7mm for February 2023, a total of 710.9mm for the two months combined.

Locals have said that the 12-hour intensity of Cyclone Gabrielle meant it was even worse than Cyclone Bola which, after unleashing three days of rain on the Gisborne region from 7 March 1988, was considered one of the most damaging cyclones to have hit New Zealand.

Figures recorded at Gisborne airport by the then NZ Meteorological Service (supplied by MetService) show rainfall of 322.3mm in March 1988, 102.8mm less than the 425.1mm recorded for February 2023. ●

METSERVICE RECORDED RAINFALL AT THE AUTOMATIC STATION AT GISBORNE AIRPORT





PLENTY TO LEARN AFTER 30 YEARS OF GROWING



Seasonal vegetables and herbs growing at the Riley farm at Kakanui, North Otago

Peter and Julie Riley grow seasonal vegetables and herbs while also running an online distribution service for organic produce. HELENA O'NEILL talks to the North Otago couple about their three decades running an organic market garden.

About 14km south of Oamaru lies the township of Kakanui, where the Rileys grow a range of seasonal organic herbs and vegetables in the rich volcanic soil.

"As far as we know, this ground was used to grow potatoes in the 1800s. So, it's been grown on continuously since the mid to late 1880s. It's a fantastic place to grow crops," Peter says.

Before taking up horticulture, Peter was an economist, while Julie worked in business and administration. Now Peter does the bulk of the produce growing while Julie handles propagation and packing.

"When we started there were produce markets in every little town. That's where our product went, but it didn't work for us. We ended up marketing our own product."

They sell their organic produce under their Rileys Raw Energy label at supermarkets from Invercargill inland to Queenstown and as far north as Christchurch.

"The programme varies because we do alternating rotations. What we're doing right now are courgettes and beans, with curly parsley and Italian parsley. Our winter programme will go on to kale and spinach."

Last winter and spring the Rileys lost a large part of their lettuce crop due to poor weather.

"This year we're having a really good season. The volumes are up but the prices are down. It's our best summer in years.

“

This year we're having a really good season. It's our best summer in years

"Seasonality has always been a part of this for us, as we grow in the soil. Before we were certified organic we had hydroponics as well. One of the reasons I wanted to grow organically was that everything grown in soil grew much better. You can keep using the soil and having a system that's productive. That's its best benefit.

"We started composting early on and realised that our crops were doing really well, so we stuck with it. Now 90 percent of our soil fertility comes from cutting our hedges and having them composted, then we bring in seaweed and turn it over with a front-end loader and split it up into different seasons. By running soil and leaf tests you can find out where you're missing nutrients."

Over the years the Rileys have reduced the size of their property and no longer lease extra land, now growing on less than half a hectare.

"Horticulture here has really shrunk. When we started growing there were 77 growers in the North Otago Growers Co-operative, dropping to around seven active

growers today. Most of those who have remained have got bigger.”

Peter says that while there are some sizeable growers in North Otago who aren't members of the co-op, it's a fairly accurate reflection of the reduction of horticulture in the area.

The Rileys used to also grow flowers, but due to rising energy costs they moved to only growing seasonal vegetables and herbs.

“
We both are learning what we do and feel like there's more to learn

“When we started, we had electric heating, it was about 3.5 cents per unit so we invested quite heavily in that to increase production. Of course, as soon as we did that the cost of energy doubled, trebled, and it became a pointless exercise because you couldn't recover the cost of energy. We now solely grow seasonally so we can avoid using heat.”

As a small-scale operation, the Rileys couldn't rely on just growing fresh organic produce to provide for their family.

“Growing was always one of the strings to the bow, but it wasn't everything. As costs go up, prices don't go up with them. So we also got involved with distribution to make sure that we could put organic product on the shelves. We had to get other stuff going in there that wasn't ours, to make sure that ours could sell. In its heyday, it was quite substantial with a lot of products from the North Island. Now supermarkets have brought that in-house.”

Eleven years ago the Rileys launched localpricetrenz.com an online distribution service. Its aim was to permit zero mark-up contracts without auctions between buyers and sellers.

“So what we did was invest in technology for the distribution for supply. It's all done with software. It meant that we could make markets in stores without a people component and it didn't drive up our costs while growing.”

Peter says that a major benefit of the website is that supplies can move directly from the producer to the buyer without zigzagging to and from warehouses, assisting in lowering carbon emissions and reducing costs. He and Julie are shareholders and directors, and value the ongoing input from its technical director Nathan Lattan, who is also a shareholder.

“I really enjoy being a grower. I feel like I haven't learned anything yet. Julie and I are both first-generation growers. We both are learning what we do and feel like there's more to learn. We're quite pleased with some of the things that we've progressed this year. Thirty seasons aren't a lot of seasons.” ●



Peter and Julie Riley have run their market garden for more than 30 years



The couple sells organic produce like courgettes/zucchini under their Rileys Raw Energy label in supermarkets across the lower half of the South Island



Seasonal vegetables and herbs growing at the Riley farm at Kakanui, North Otago



TRACTOR DONATIONS HELPING TONGA RECOVER FROM ERUPTION

Elaine Fisher



Seeka Ltd donated this Massey Ferguson 135 tractor

Three fully reconditioned tractors and two sets of disc ploughs have been sent to Tonga to cultivate land smothered by ash from the volcanic eruption of 15 January 2022.

Donated through the Tractors for Tonga programme co-ordinated by the Growers Relief Fund Trust of Horticulture New Zealand, the tractors are a highly valuable addition to the island nation's existing small fleet of tractors.

"It was Julian Raine (former HortNZ chairman) who masterminded the project following the huge eruption of Hunga Tonga-Hunga Ha'apai volcano last year," says Mike Chapman, who has been co-ordinating the Tractors for Tonga programme.

"He brought together a group of Nelson growers to buy a tractor and since then other donations have been made."

A Massey Ferguson 245 was jointly donated by Wai-West Horticulture, Vailima Orchards, Heywood Orchards and Wairepo Holdings. Seeka Ltd has donated a Massey Ferguson 135. Willisbrook Orchards matched funds raised by their staff to purchase a Ford 300 for the orchard's Recognised Seasonal Employer (RSE) scheme workers and their families on Ha'apai Island.

The tractors have been upgraded and canopies installed by Norwood in Pukekohe. Zespri, through its annual rugby



This Ford 300 was donated by Willisbrook Orchard and staff

charity auction, donated \$5,000, which was matched by Rabobank. Those funds were used to buy new disc ploughs for the tractors. Neptune Pacific Direct Line Pte Ltd has also discounted their shipping costs.



We are very grateful for the generosity the project has received



"We are very grateful for the generosity the project has received including from many individuals who have donated funds, and would welcome further donations, including of more tractors," says Mike.

The Tractors for Tonga programme is working through the Pasifika Safe Shelter Trust in New Zealand and the Ongo Niua Community Corporation (ONCC) in Tonga, both registered charities.

"We are very fortunate to be working with Peter Rodwell (chair of the Pasifika Safe Shelter Trust) who has close connections in Tonga and an excellent understanding of the needs of the people there.

"As with previous shipments, these tractors and attachments are donated and not for resale in Tonga, and are to be managed particularly for those families who cannot afford to plough their land," says Mike.



Tilling the soil after the eruption in Tonga is vital for growing food crops



Massey Ferguson and Ford tractors are ideal for use in Tonga because they are easy to service and parts are available



Disc ploughs are among the equipment donated through the Tractors for Tonga project

Peter Rodwell says the older Massey Ferguson and Ford tractors are ideal for use in Tonga as they are simple to operate and maintain and spare parts are readily available.

"The Chinese Government and a New Zealand businessman had sent brand-new, high-tech tractors to Tonga but when they break down there is no one with the skills or equipment to fix them," he says.

Peter says the need for tractors is significant throughout Tonga. "Much of the work on the land is done by women, as many men are in New Zealand in RSE schemes."

In order to grow food after the eruption, Peter says the deep layer of ash covering much of the islands needs to be tilled. "Without cultivation it will be years before anything will grow in the ash. Growing their own food is vital because many people are

very poor and live in a subsistence culture."

The Ongo Niu Community Corporation has undertaken to ensure those in most need have the first use of the tractors. "When the tractors are hired, the cost includes the driver's wages and fuel. If people can't afford to pay, they will still have access to tractors," says Peter. The ONCC is currently running tractor driving and ploughing training for women. ●

To find out more about Tractors for Tonga contact the Growers Relief Fund Trust secretary Antony Heywood: Antony.Heywood@hortnz.co.nz

Donations for Tractors for Tonga can be made through: Growers Relief Fund Inc <https://www.hortnz.co.nz/about-us/growers-relief-fund>



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EVE'S DEGREES PROVE 'LITERALLY' IDEAL FOR HORTICULTURE

Elaine Fisher



Eve Williams of Primary ITO enjoying tramping the Crown Range

A career in horticulture wouldn't appear the logical choice for someone with degrees in English literature and a minor in French literature.

However, Eve Williams, Pathways Into Primary Industries (PIPI) lead at Primary ITO, is a shining example of the truism that there are careers for everyone in horticulture, no matter their background.

"My Master's degree may seem very irrelevant, but my philosophy is that university is a chance to learn indiscriminately, rather than worrying about what is useful," says Eve, who is also a founding member of Women in Horticulture.

The analytical and research skills Eve developed during her university studies have stood her in good stead in her industry roles. After completing her degree at Victoria University, Eve enjoyed a six-month OE before returning to New Zealand to join the natural resources team at Horticulture New Zealand.

"After two years I moved into a policy analyst and business manager role for NZ Asparagus Council and four years ago joined Primary ITO."

Although Eve grew up in the Wairarapa, she had little connection with horticulture. It was the fact that HortNZ is a levy funded organisation, working for growers, which prompted her to apply for that first job. However, it was sitting in a NZ Asparagus Council board meeting which really brought home the passion growers have for their crops.

"We had been talking about how heavy a good spear of asparagus should be for 20 minutes when I realised that everybody loved what they did. I knew then why those people were in the room, and I was pleased to be on the ride with them.

"What really spun my wheels at HortNZ was managing Young Grower of the Year and the Recognised Seasonal Employer (RSE) and horticulture conferences. 'People' is my jam, so when I saw a role at the ITO, whose raison d'être is developing capability for the primary sector, I was super keen to move into this area."



Filming for a documentary to promote Good Bitches Baking - Eve Williams is regional co-ordinator for the Wairarapa chapter

Primary ITO has now joined Te Pūkenga, New Zealand's largest tertiary education provider, and Eve says unifying classroom and workplace learning will make it much easier for people to progress within the industry. "It's also important that industries have a strong voice in how education and qualifications are delivered."

“
The horticulture sector has shown it is possible to pivot to meet the needs of staff

Eve was involved in the research behind the establishment of the Pathways into Primary Industries (PIPI) programme, designed to facilitate the attraction, recruitment and retention of Kiwi talent into New Zealand's primary industries.

One of the challenges the primary industries face is reaching people who have no connection with the sector and letting them know about the great training and career opportunities on offer.

"The horticulture sector has shown it is possible to pivot to meet the needs of staff, including structuring shifts to fit around young families, and other measures to attract different people to the industry. There is also so much innovation that roles are continually changing and there are opportunities from the farm or orchard to the supply chain to international markets. It's a big story to tell but once we get the stories out there, they tell themselves."

Eve, who lives in Masterton, often works from there, commuting to the Primary ITO office in Wellington on other days.

Tending her vegetable garden and fruit trees and making sweet treats for Good Bitches Baking is how she likes to relax.

"I'm regional co-ordinator for Good Bitches Baking Wairarapa chapter and we have 80 bakers and drivers. Our kaupapa is to make sweet treats for people who are going through a hard time. There are 30 chapters in the whole country (and not all bakers are women).

"The Wairarapa chapter supports 13 different recipients including a day shelter, Hospice, Women's Refuge and a teen parent unit. You don't have to be a master baker to be involved, because it's the kindness in your intentions that matters more than the final product."

And about that literature degree, focusing on how women were portrayed in 18th century poetry: "It was pretty dire. That was the time when printing presses became more common and almost anyone, including women, could publish without the previous gatekeepers. This was a threat to the patriarchy and many anonymous 'advice tracts', supposedly written by women, but more likely by men, on the pitfalls facing women who strayed outside the norms of society were published."

Eve says there are parallels with today's social media through which anyone can publish opinion, with no arbiters of quality or standards.

On the other hand, the place of women in society today is starkly different from the 1700s, as evidenced by the number of women in every aspect of the primary industry, including in leadership roles.

"The more representative the leadership and influencers of the industry are, the better we will be able to represent the people that make up the industry and ensure that the decisions made reflect all facets of it," says Eve. ●



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.

TECHNICAL



THE LATEST INNOVATIONS AND IMPROVEMENTS



42 SWITCH TO
SUSTAINABLE

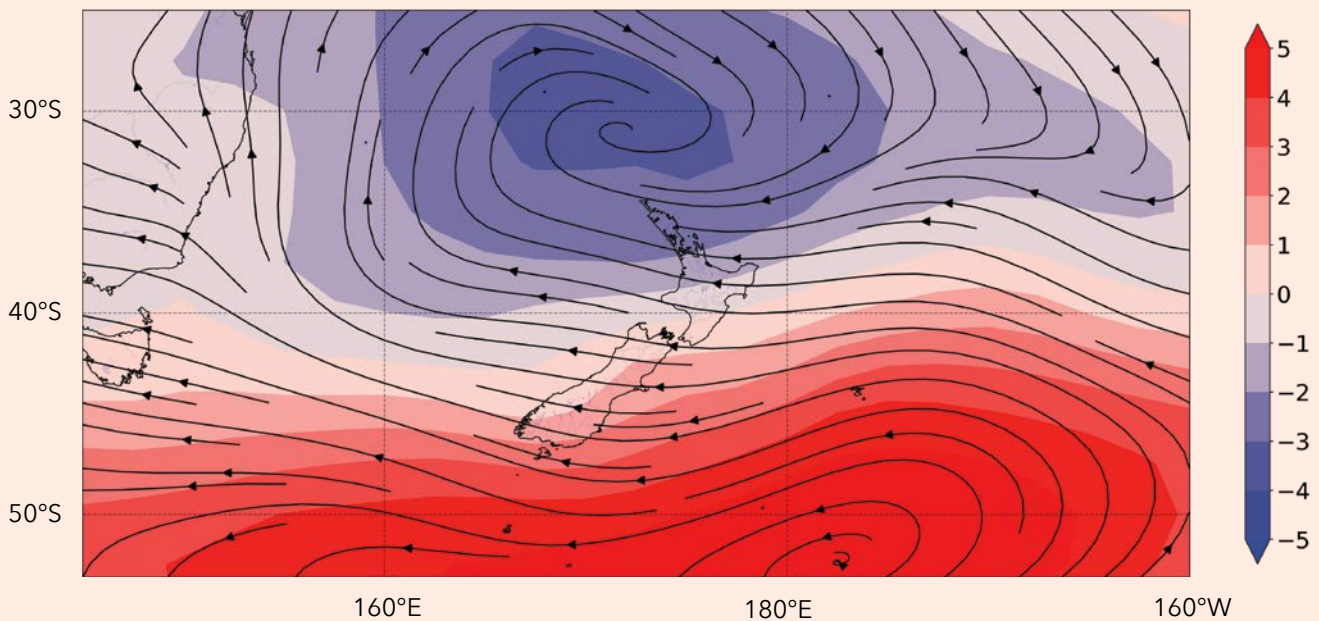


A SUMMER OF FLOODS AND DROUGHTS, AND VERY WARM

Ben Noll and Gregor Macara : National Institute of Water and Atmospheric Research (NIWA)

Mean Sea Level Pressure (hPa) & Air Flow Anomalies

1 Dec 2022 - 28 Feb 2023



Mean sea level pressure (MSLP) and air flow anomalies during summer 2022-23. Blue colours indicate lower than normal MSLP and red colours indicate higher than normal MSLP

Summer 2022-23 in Aotearoa New Zealand was marked by striking contrasts across the two islands.

February 2023 will go into the record books as a month during which Aotearoa New Zealand experienced one of its worst weather disasters in modern history, by way of an ex-tropical cyclone. Two ex-tropical cyclones, Hale and Gabrielle, impacted the North Island during the summer months. Hale resulted in considerable damage and Gabrielle caused widespread devastation, including unprecedented flooding, severe coastal erosion, and loss of life. A national state of emergency was declared, for only the third time in New Zealand's history.

The North Island experienced exceptionally wet conditions across much of summer, with Auckland, Northland, Bay of Plenty, and Hawke's Bay all experiencing their wettest

summers on record - marred by several bouts of extreme rainfall and devastating flooding, including an event where Auckland recorded over 280 percent of its normal January rainfall in under six hours.

In contrast, the South Island saw prolonged periods of hot, dry and sunny weather, leading to some areas experiencing meteorological drought, as measured by NIWA's New Zealand Drought Index (NZDI).

Persistent La Niña - for the third year running - played a big part

Cyclone Gabrielle occurred amidst a unique set of climate drivers - specifically, a La Niña 'triple dip' (third consecutive), which although its strength was waning, continued to have a meaningful influence on New Zealand's weather patterns.

As is typical of La Niña summers, higher-than-normal air pressure was observed to the east and south of

New Zealand, while lower-than-normal air pressure was recorded to the north and west. This resulted in more easterly and northeasterly winds than usual, drawing in warm and humid air from the tropics and sub-tropics.

Other climate drivers also contributed to warm temperatures

Adding to the warmth, humidity and moisture availability for passing low-pressure systems, was a protracted marine heatwave that peaked in January. The sea surface temperatures for February were the warmest on record in the west and east of the South Island, and second-warmest on record in the north of the South Island.


The Southern Annular Mode (SAM) was mostly positive throughout the summer, but dipped into negative in February when ex-tropical Cyclone Gabrielle arrived. A positive SAM during summer is usually associated with belts of high pressure near the South Island, which was indeed observed during summer 2022-23.

Temperatures during the summer were generally above average, with some areas experiencing well above average temperatures. All three months were in the top ten warmest on record.

The nationwide average temperature for summer 2022-23 was 17.9°C, which was 1.1°C above the 1991-2020 summer average from NIWA's seven station temperature series, which begins in 1909.

Looking ahead to autumn

New Zealand is expected to experience a transition from La Niña to El Niño Southern Oscillation (ENSO)-neutral conditions during March, resulting in more variable air flow, temperature and rainfall patterns during autumn.



NIWA SEASONAL CLIMATE OUTLOOKS
Predictions of temperature, rainfall, soil moisture and river flows.
niwa.co.nz/outlook
NIWA
Teihoro Nukurangi



SUMMER 2022-2023
32 LOCATIONS
HAD A RECORD OR NEAR-RECORD
WET SUMMER

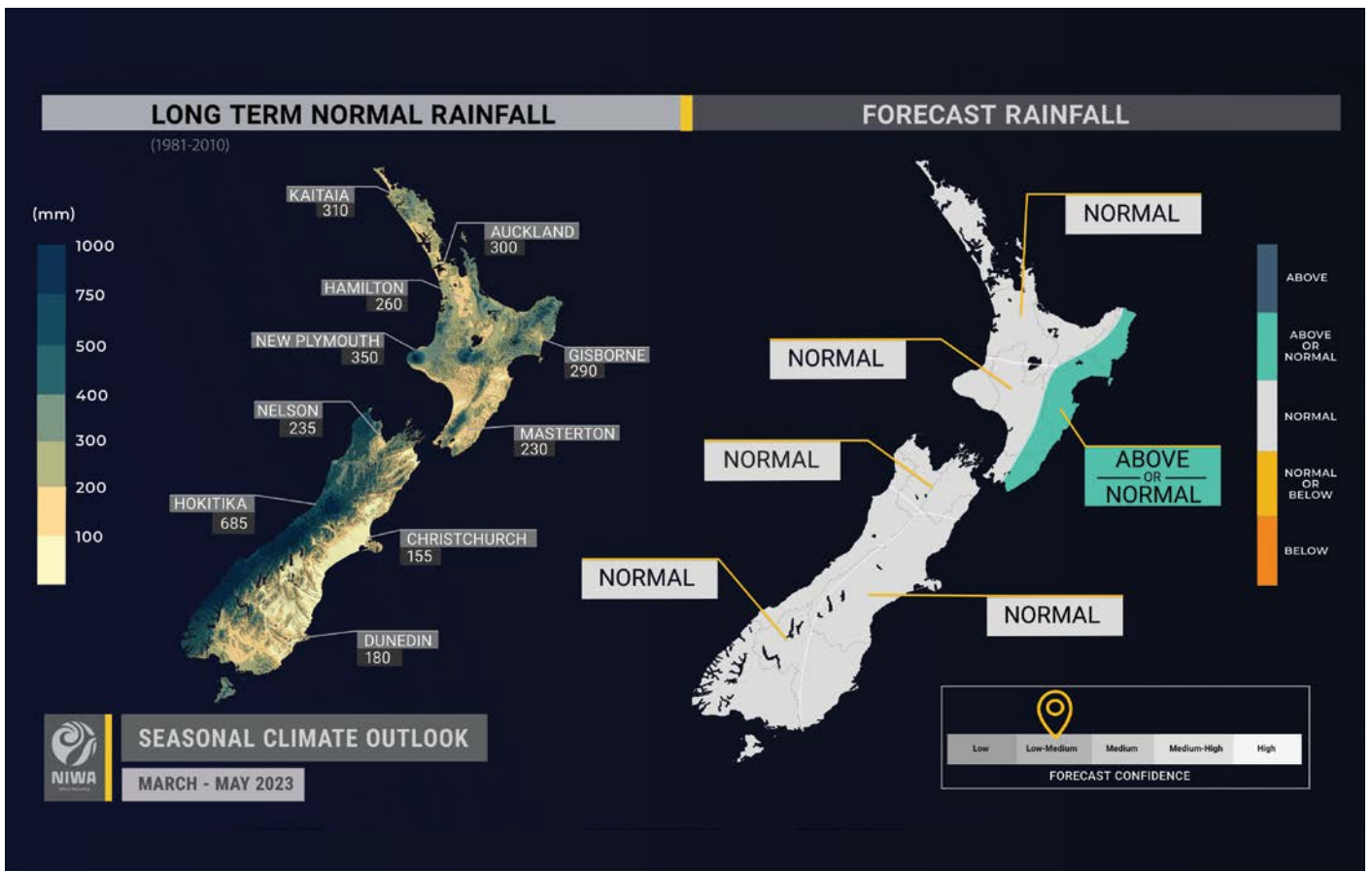
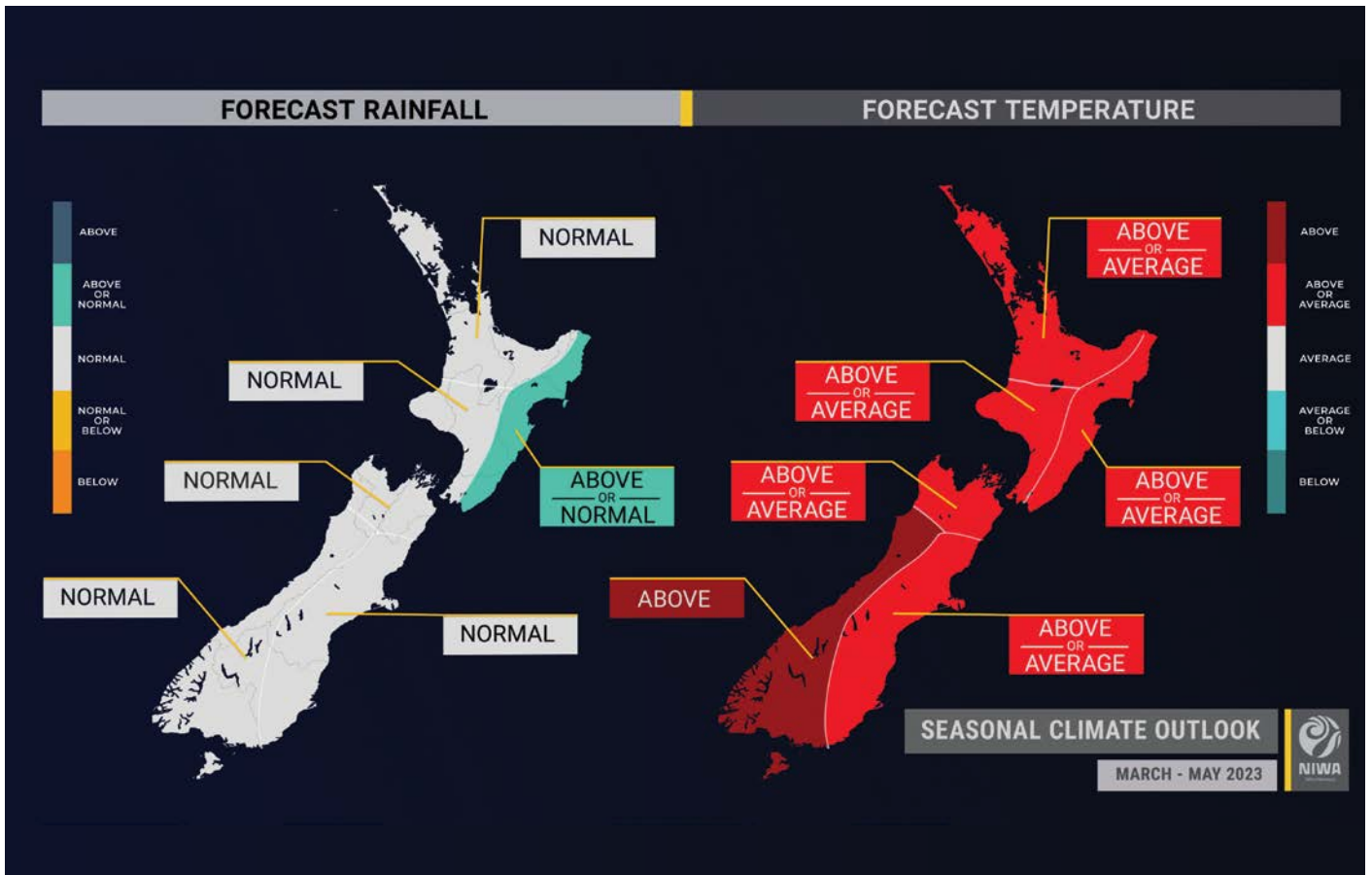
Low pressure is expected to occur more frequently over the Tasman Sea and the South Island, leading to spells of westerly winds - a distinct change from summer. These westerly winds, while not dominant, will bring some more typical cold fronts.

Rainfall is equally likely to be near normal or above normal in the east of the North Island, and most likely to be near normal in all other regions. In the North Island, this represents a drier signal compared to previous outlooks.

Low pressure systems to the western side of both islands are expected to produce rainfall that will gradually ease long-term rainfall deficits in the west and south of the South Island. However, the remnant effect of La Niña could still produce some sub-tropical and/or tropical low-pressure systems, occasionally increasing the risk for heavy rain in the North Island.

Seasonal temperatures are most likely to be above average in the west of the South Island and about equally likely to be near average or above average in all other regions. Cold spells will become more common as autumn progresses, and this transition will be accompanied by an increasing risk of frosts.

NIWA's scientists are monitoring the chances for a transition to El Niño conditions during winter. El Niño tends to be associated with drier conditions in the North Island and eastern South Island during winter. The likelihood of a transition to El Niño will be updated each month in NIWA's seasonal outlooks available on the NIWA website. ●





SWITCH TO SUSTAINABLE AND STAY PROFITABLE

Ellery Peters : Vegetables New Zealand Inc energy engineer



Hannah Jordan of Saddle View Greens in discussion with Antony Heywood, general manager of VNZI



Callum Grant's promising thermal screen trials at Kakanui Tomatoes

The Emissions Trading Scheme is currently adding an extra cost of \$70-80 per tonne of carbon dioxide emitted from fossil fuel used by covered crop growers to heat their greenhouses. As this begins to affect livelihoods and New Zealand's food security, Ellery Peters, Vegetables New Zealand Inc's new Energy Engineer, is working with growers to find new ways to reduce fossil fuel consumption.

At Vegetables New Zealand Inc (VNZI) we are supporting covered crop growers to switch to sustainable energy sources and reduce energy consumption. This is important for the covered crop industry because of the increasing Emissions Trading Scheme (ETS) price currently taxing fossil fuels such as coal and natural gas. Currently the ETS price in New Zealand is around \$70-80 per tonne of carbon dioxide emitted, however, this is expected to nearly double over the next 10 years, drastically raising the price of burning fossil fuels. My role at VNZI is to assist our growers in making the best decisions towards decarbonising by providing the necessary support and resources.

The first step to work towards improving the energy efficiency of the covered crop industries in the South Island is to begin visiting growers who are keen to get involved, to learn from them and hear real feedback to improve the programme as we work towards the end goal of decarbonisation.



The ETS price is expected to nearly double over the next 10 years, drastically raising the price of burning fossil fuels

Forest Lodge in Wanaka was the first farm visited during this South Island grower visit. Forest Lodge is the first carbon neutral cherry farm in the world. Mike Casey owns Forest Lodge and through his own research and support from different funding avenues he has electrified his entire farm, eliminating fossil fuel dependence. He has electrified the frost fans, the tractor, the customised golf carts used for orchard operations, and all other harvesting equipment. He also uses solar panels to supplement the electricity supply.



Mike Casey's fully electric tractor and crop sprayer at Forest Lodge

The key component about Forest Lodge is that the electricity is taken from the grid when electricity is the cheapest, and because of Mike's storage capacity he can then store it until it needs to be used. When electricity gets very expensive, he can sell his excess back to the grid for an inflated price; because of this Forest Lodge's electricity bill is virtually zero. This is the change we want to lead vegetable growers towards, which was what we are driving through Energy Transition Plans. After this visit to Forest Lodge a number of different farms were visited to discuss their energy requirements and the different ways they are looking at reducing their energy demands: Drysdale Hydroponics in Invercargill, The Lettuce Company in Alexandra, Saddleview Greens in Mosgiel, and Kakanui Tomatoes in Oamaru.

“
The main feedback was a lack of confidence in the recommended fuel switching methods and energy reduction opportunities

Drysdale Hydroponics and Kakanui Tomatoes are both growers who have participated in the Energy Transition Plan pilot programme, which is a conjoint programme with VNZI and the Energy Efficiency & Conservation Authority (EECA). An energy transition plan is a review and recommendation of energy reduction opportunities and fuel switching opportunities containing the financial information related to pursuing these changes.

Many options were recommended for the six growers who were involved in the pilot programmes, ranging in

complexity and price. Some of the common themes in the transition plans were options like pipework insulation and air distribution fans, which were providing savings up to \$13,000 per year in some applications. Some more expensive options provided were thermal screens and dehumidification systems, which forecast an almost 60 percent reduction in energy demand according to the calculations provided. It was important to explore these options as well as more innovative ones like the work Mike Casey has been doing, to be able to have a complete range of options for growers.

The main feedback received from these growers was a lack of confidence in the recommended fuel switching methods and energy reduction opportunities. We acknowledge this, and it is important to work towards providing better support for these options and encourage cost effective methods for achieving these goals. To improve the confidence of growers we will begin working towards improving communication to highlight successes we have had around New Zealand in reducing energy demand, and successful stories of switching to sustainable fuels to prove that these initiatives can be sustainable and profitable. VNZI general manager Antony Heywood and I will continue visiting growers around the North and South Island to provide support and raise continuing interest in the programmes and options available to growers. ●

If you would like to share your story, have a suggestion or would like to get in touch with me to discuss the energy demand for your site and what options are available for you to reduce your energy usage, email me at Ellery.Peters@hortnz.co.nz.



SVS TOOL DEVELOPMENT UPDATE

Andrew Barber and Henry Stenning : Agrilink NZ

Sustainable Vegetable Systems - latest activities

- Plant & Food Research (PFR) continue to collect and analyse data from the intensive field experiments in Workstream 1. Ryegrass seed crops at the Lincoln site have been harvested and left in pasture, while the cauliflower crop in Hawke's Bay has been harvested sequentially following commercial standards.
- Regional monitoring in Workstream 2 is ongoing. Two onion crops and one pea crop have been harvested, while two potato crops, a broccoli, butternut squash and a watermelon crop continue to grow at the other monitoring sites (as at the end of December).
- Development of the farmer facing tool as part of Workstream 3 is accelerating, with a Microsoft Excel based concept demonstrator being trialled with growers across the country to develop case studies and inform further development of the tool. Meanwhile, the software company Rezare Systems has been contracted to develop the finalised web app for general release to the industry in July.
- Workstream 4 dissemination work has also picked up the pace in preparation for the release of the tool. This dissemination work includes greater grower engagement with the tool, findings of which will be incorporated into publicly available case studies. Growers across the country will be contacted by FOLKL in May to participate in tool feedback sessions. NZGrower articles continue to be written to inform the industry of programme developments.

Workstream 1 trial results

The two Canterbury trial rotations are currently in pasture following the harvest of the ryegrass seed. Nitrogen content of the harvested crop is currently being analysed.

Irrigation was applied to both crops at two different rates reflecting different management practices. Good management practice, replacing soil moisture lost through evapotranspiration, was simulated by applying 165 mm of irrigation. Additional irrigation to a total of 215 mm was applied as a separate treatment to simulate exceeding field capacity and to stimulate leaching, though no drainage events occurred during this period. In addition to these treatments there was approximately 139 mm of rainfall during the period October to December 2022.

Nitrogen was applied at planting at rates of 0, 15, 30 or 60 kg N/ha, with up to three side dressings topping this up to



Figure 1: Ryegrass at the PFR research farm in Lincoln

total rates of 0, 60, 120 or 240 kg N/ha.

Rotation 3 in Hawke's Bay was planted in a ryegrass catch crop which is currently well established. As a catch crop it has received no nitrogen fertiliser.

With grower guidance, the cauliflower crop in Rotation 4 was progressively harvested over a three-week period in October. Following harvest, a ryegrass crop was sown for hay. Across both Hawke's Bay rotations there were ten leachate collections due to high rainfall - totalling 573 mm between July and December 2022.

Model development

Data from the trial sites is now being used to run modelling simulations and compare observed and modelled data. The Sustainable Vegetable Systems (SVS) model is also being tested against the Agricultural Production Systems Simulator (APSIM) tool for evaluation.

Coding to transform the model into the finalised tool is underway. This has subsequently been iterated into an N balance model. The continued development of the SVS tool will require parallel development of user interfaces, collation of model coefficients and refinement of model code. The model can be updated without affecting the concurrent interface development and testing.

A second prototype has since been developed to enable tool testing with growers around the country.

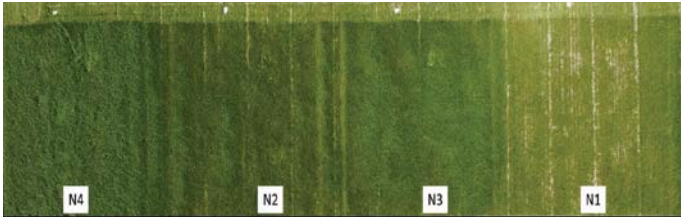


Figure 2: Different nitrogen treatments in Rotation 1 at Lincoln in November 2022. N1 received no nitrogen fertiliser while N4 received the most nitrogen (180 kg N/ha) at the time this picture was taken

This prototype has a Microsoft Excel interface for ease of sharing and useability, with the model code sitting in the back end.

Feedback from use of this second prototype with growers, and analysis of Workstream 1 and 2 data, will be used to finalise the model in preparation for the development of the final user interface by Rezare Systems, which will take the form of a web application.

Outstanding jobs to do for model development (not including interface development) are the inclusion of the hot water extractable organic nitrogen (HWEON) test method for predicting soil organic matter mineralisation, the inclusion of a model for predicting residue mineralisation, and the completion of the table of crop-specific coefficients.

Upcoming developments

Over the remainder of 2023 the intensive trials in Workstream 1 will all conclude. This is also the last year for regional monitoring, though some additional work may continue into 2024 depending on the crop rotation at each site.

The programme has now fully moved into the model and tool development phase of work, with upcoming priorities including finalising the model and developing the user interface for the grower facing tool.

Finalising the model will involve the incorporation of soil leaching and residue breakdown predictions, as well as including any new learnings from the regional monitoring work.

To assist with this, work on grower case studies will continue to collect feedback and assess model functionality. Understanding the baseline level of practice for making nitrogen management decisions is also a key focus, with this data being collected through conversations with the case study growers and FOLKL's grower interviews.



Figure 3: Collection of leachate samples from the ryegrass crop in Hawkes's Bay. Clockwise from top left figure: placing vacuum on suction cups at 60 cm and 120 cm soil depth to extract soil solution. Vacuum is placed on the suction cups for 1 hour. Tubes are identified depending on depth and prepared to release suction. After suction is released, solution flows into the collecting vials. The last image shows the vials with soil solution samples. Vials are then sealed and frozen until laboratory analysis can be completed

A Risk Scorecard currently under development by Horizons Regional Council is also being trialled with case study growers to further develop an understanding of where the outdoor vegetable industry currently sits on a risk management scale. This scorecard consists of two sections, nitrogen fertiliser management and soil health. Each section consists of several scored questions. The sum of the scores for each section then determines an operation's overall risk ranking. The risks associated with nitrogen fertiliser can be offset with a nitrogen budget, facilitated through the SVS tool, and soil nitrogen testing. Soil health is based around the length of fallow periods and offsetting these risks using cover crops. This risk scorecard approach is very practice driven, rather than the previous fixation on an Overseer leaching number.

Workstream 4 is about to record an SVS podcast series of six episodes. We look forward to sharing these in late autumn.

Don't forget you can view the SVS video series on the PNZ YouTube channel <https://www.youtube.com/@potatoesnewzealandinc.8524/videos>



PRODUCT GROUPS



ALL THE LATEST NEWS FROM YOUR PRODUCT GROUPS



53 New executive manager
Strawberry Growers NZ





GETTING THE SCIENCE TO THE SOIL

Daniel Sutton : Vegetables New Zealand research, development and extension manager

This month Vegetables New Zealand Inc welcomes a new face, but one that many growers will already recognise. Daniel Sutton is on a mission to support growers to put research into action.

I am based in Pukekohe and pretty familiar with a lot of the growers here through my recent roles. So I'm really pleased to be joining Vegetables New Zealand Inc (VNZI) as research, development and extension manager. I'll be going around the country and I'm sure I'll meet many more of you.

This is a new role to help link growers with science. I think there is huge potential to get research and development (R&D) into practice so that it's benefiting growers and New Zealand. There's already important and innovative work being done of course, by VNZI together with the Vegetable Research & Innovation Board and the various vegetable product groups and Process Vegetables, but I know growers want more practical support to apply it in the field. Change doesn't happen without resource.

I come from carrot growing country near Ohakune. Although not from a grower family myself, I grew up with today's generation of young growers. I developed my interest in horticulture at Ruapehu College, where I had an awesome and inspiring teacher, Leigh Hynes. It's a small school with just a couple of hundred students and I was the only one doing horticulture in the last year. I went from there to Massey University and got a Bachelor of Applied Science majoring in Horticulture followed by a post-graduate diploma in Agriscience. Around that time I was also working with potato growers in the Manawatu during the early years after tomato-potato psyllid arrived in New Zealand. So I got to know Potatoes New Zealand then.

Most recently I've been at Fruited Supplies on the technical team working on crop protection, integrated pest management and industry research projects. So in this new role at VNZI I'm looking forward to supporting grower development through applied science. And I encourage you to get in contact with me about getting the support and resources you need. ●



Call me on **027 473 2381** or email **daniel.sutton@freshvegetables.co.nz**.

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STUDENTS LEARN FROM GREENHOUSE OPERATIONS

Dinah Cohen : TomatoesNZ Inc business manager

This month in NZGrower, TomatoesNZ shares an update on horticulture students visiting Wing Shing Farms in Papakura, as well as resources for covered crop growers interested in reducing their energy demands. We also share a guideline for managing broken glass in greenhouses.

NZ Certificate in Horticulture Level 3 field trip

Mike Saklani, a glasshouse grower of tomatoes and cucumbers at Wing Shing Farms and also a TomatoesNZ board director, recently hosted a group of level 3 NZ Certificate in Horticulture students on his property. This was a chance for the students to get out of their classrooms and see first-hand all the different aspects of a busy greenhouse growing operation. Discussions centred around irrigation and nutrition management, pollination, pest and disease management including the use of beneficial insects, cost-benefit economics, target market and demand for produce.

If you would be happy to host a group of students, please contact course tutor Dipen Hadiya on Dipen.h@skillsupdate.co.nz or 027 329 2661



Students working toward their level 3 NZ Certificate in Horticulture at Skills Update visit Wing Shing Farms

Energy Workshop

Vegetables NZ is inviting all covered crop growers to attend an energy workshop either in person at the Franklin Club, Pukekohe or online on 19 April 12pm – 5pm. The presentations will follow a complimentary lunch and will focus on how glasshouse growers can reduce their energy demands – an important topic as the temperatures across the country, especially overnight, decrease. Some of the learnings from six recent Energy Reduction Reports undertaken at a variety of glasshouses in both the North and South Islands will be presented.

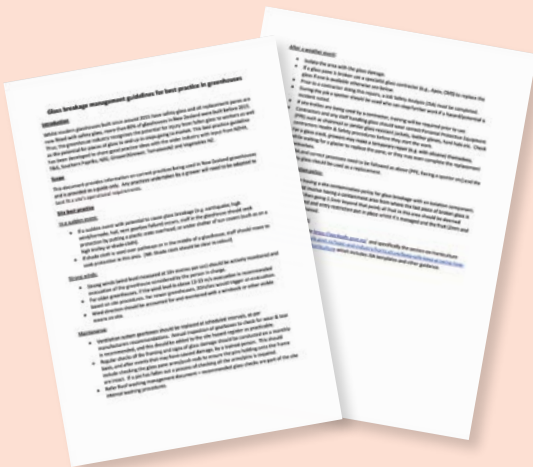
For a full line-up of speakers and to RSVP please head to <https://www.freshvegetables.co.nz/> or email Ellery.peters@hortnz.co.nz



Glass breakage management guideline

In the light of dramatic weather events over the first quarter of this year, we have taken the opportunity to develop a guideline for how to manage broken glass in greenhouses. Several growers have input into this document and it may well cover practices that you are already carrying out, but it's always a good idea to have a refresh for both yourself and staff members. ●

The guideline can be found here:
<https://www.tomatoesnz.co.nz/about/useful-docs/>



Tomatoes growing at the Papakura glasshouse of Mike Saklani, who is also a TomatoesNZ board director



Grower Mike Saklani, a glasshouse grower of tomatoes and cucumbers, showing horticulture students his operation



Skills Update students saw first-hand all the different aspects of a busy greenhouse growing operation



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PADDOCK TO CLASSROOM: INSPIRING TEACHERS AND NEXT-GEN POTATO GROWERS

Glenys Christian

Close to 20 teachers from Auckland, the Coromandel and Waikato areas got up close with potato production in mid-March as part of the Teachers' Day Out programme.

It was the first of five visits to be held this year after disruptions due to Covid-19. The Pukekohe outing which took in dairy farming, onion production then potatoes, was the first cab off the rank, with outings in the Wairarapa, Cromwell, the West Coast and Blenheim to follow.

Kerry Allen, who organised the visit, says they are very important in giving agricultural and horticultural teachers a better understanding not only about these industries but also the employment prospects which they may hold for students.

She is the agricultural and horticultural science curriculum director at St Paul's School in Cambridge, and also secretary-treasurer of the Horticulture & Agriculture Teachers' Association (HATA) and a member of the Sow the Seed agricultural and horticultural science advisory

team sitting under the Ministry for Primary Industries (MPI) and Ministry of Education, which was set up four years ago.

“
Growers are... giving you right-now information in a real-life situation

HATA, which has a long history, now has 189 school members, with that number growing in recent years through more marketing and promotion. The farmer and growers' visits, carried out for the last 12 years, are an important touch-point, she says.

“They're not expensive to do with just the cost of a bus and a lunch. But teachers can actually talk to growers and perhaps get them to be speakers to their students to authenticate what we're teaching.”

With less emphasis on content, she says it's very important for teachers to update the information they're passing on to students.

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Teachers at the end of their HATA visit to A S Wilcox with Simon Wilcox, second from right

“They don’t know what they don’t know.”

There are seven agribusiness achievement standards for teaching and learning to gain the National Certificate of Educational Achievement (NCEA). The four at Level 2, innovation, science and technology, management and finance and marketing require students to show they understand future proofing influences that affect business viability, conduct an inquiry into the use of organisms to meet future needs, and demonstrate understanding of a primary business structure that best meets its strategic needs, as well as cashflow forecasting. And at Level 3 they need to analyse future proofing strategies to ensure long term viability of a business, the effect of financing options of strategic capital spending decisions, and how a product meets market needs through innovation in the value chain.

When it comes to how rapidly changing social, regulatory and climate events are influencing students’ study interests she says that while there might be a lot of negative publicity, it’s important to talk to students positively.

“We don’t want them to be naïve, but if they are going to move up the ranks in agriculture or horticulture those events aren’t going to have such an impact,” she says.

“I say to students potentially there are opportunities for them to solve some of the wicked problems being faced at the moment. They have to be broadminded. We can talk until we’re blue in the face, but by making these visits they understand more about what we mean. They get engaged.”

POTATO OF THE MONTH: **JELLY**

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Kerry Allen (HATA) and Simon Wilcox check out some bagged potatoes

Agricultural and horticultural students are often hands-on, practical people who learn a lot more when they can actually experience what is being talked about.

“Sometimes they don’t get it until they see it.”

The face-to-face contact with growers allows both groups to communicate and build links with each other. For growers that could mean a point of contact if they are interested in employing students in the future for work experience or after school, and for teachers valuable detail on who they can contact if they want someone to come to speak to some of their classes. If specific days were organised for different industries, she’s sure teachers would fly in to attend.

Bronwyn Dyer, who teaches Primary Industries and Horticulture at Hauraki Plains College at Ngatea, had been on a previous trip four years ago.

“I find them incredibly invaluable,” she says.

“They’re giving you right-now information in a real-life situation.”

She thinks they would be of particular value to careers advisers, those helping students choose subjects they want to study later on, and teachers at urban schools.

“Sometimes they have a narrow understanding of the agriculture and horticulture industries,” she says.

“**Teachers can actually talk to growers and perhaps get them to be speakers to their students**



“Students might not want to go on-farm, but there’s so much scope to go down the science or technology route.”

The teachers had a lot of questions for operations manager Simon Wilcox, as he toured them through the AS Wilcox packhouse. They said that while money is an issue to some students, it is often more a case of their eyes not being open to the range of employment options that agriculture and horticulture can offer.

With the company’s focus very much on developing people in-house, Simon urged teachers to prepare the right attitude in their students - “we’ll do the rest.”

“We invest in people to prove their worth to the business.”

AS Wilcox is keen to link into schools where students could be interested in seasonal work over the summer school holidays as a first step into the industry.

“We have to create a value proposition that fits.”

The company has strongly supported the gateway programme being developed at Pukekohe High School, which unfortunately had lost some momentum through the Covid-19 lockdowns. ●

For more information on HATA, Sow the Seed and Agribusiness in School, please email **Gemma Carroll** at potatoesnz.co.nz or visit <https://hata.nz/>

Potatoes NZ Inc and the Potatoes NZ Charitable Trust are hoping to sponsor a South Island teachers’ event in 2024.



STEPPING INTO BIG BOOTS

Sally King : Strawberry Growers NZ executive manager

That saying “on the shoulders of giants” rings very true. I am stepping into some fairly big boots after the retirement of Mick Ahern as executive manager of Strawberry Growers NZ last year. The sector has been really well served by Mick and by Rebecca Fisher (who stepped into the gap until I joined in January this year). We owe them such a huge debt of gratitude.

I don't come with Mick's pedigree - in fact mine is a checkered past, with roles as diverse as policy development, aviation and brewing. Over the last decade or so work has settled in government relations and association management. I will be leaning heavily on Anthony Rakich as chair and the very strong Board of Strawberry Growers NZ to learn the ropes of this sector, but I hope to be able to contribute to the success of strawberries in New Zealand.

Looking from the outside it seems that it really is an inflection point for strawberries. We are experiencing shifts towards a more capital-intensive cropping, increasing pressure from decisions at the Beehive, and some major weather issues to name but a few. We are also losing some hugely experienced growers to retirement too.

But from challenge comes opportunity, and I am keen to understand where the sector thinks our greatest potential lies in the next decade. I hope to get out and meet as many members as possible to hear what you think we can do to grow and succeed through to 2033 and beyond. Really important to us all is what sector-wide research projects will inform and assist us. That's a key reason for our Levy; so if you have thoughts on the challenges, or ideas about the opportunities that research could help resolve, I'd really love to hear.

The Levy also supports market access. The recent success in securing exports to Vietnam is a great example. And it supports our conference - which this year we are



holding in conjunction with Horticulture New Zealand in Christchurch, 1-4 August. Save the date!

I do hope you can make it to conference so we can say hi 'IRL' ('in real life'- acronyms for those that don't have teens), but if not, I'm here to serve you all, so please feel free to reach out. I'm Wellington based and available on the phone at **021 61 85 61**.

The last comment goes to all our members who have been seriously impacted by the weather events in the North, Tairāwhiti and Hawke's Bay. Kia kaha, we are all thinking of you and hoping you are finding a way through these really trying times. ●



STEMPHYLIUM – PROBLEM-SOLVING CROP DISEASES

Kazi Talaska : Onions New Zealand Inc market access and development manager



Onion expert Andy Richardson from the United Kingdom outlining research and patterns of crop disease at a well-attended session in Pukekohe

Onions New Zealand and industry have engaged on several occasions in the past month to support further understanding of the crop conditions of onions, particularly around the upper North Island and Pukekohe regions. To continue to deliver a quality onion to the domestic and overseas markets, we work with agronomists and growers across the country to problem-solve different diseases and risks to crop health.

Stemphylium leaf blight (SLB) of onions is a pathogen that occurs in most onion growing regions of the world. The disease is caused by the fungus *Stemphylium vesicarium* and is a host of many other fruit, vegetable and grass

or weed species. The disease spreads through asexual spores called conidia which will attach to and infect old plant tissue. The fungus can also cause infection of leaves through stomatal openings or via wounds caused by other insects or diseases, but in general, has long been regarded as a secondary disease that affects crops toward the end of the growing cycle, infecting older onion leaves and mature plants.

Stemphylium is not new to New Zealand and has been present in the crop for a long time. In the past few growing seasons, there has been noticeable disease pressure leading to some discussions supported by international expertise.

International Expertise Visits and Workshops

There have been two notable industry events this year that have invited world onion experts Andy Richardson from the United Kingdom, Christy Hoepting and Daniel Heck from the Cornell Cooperative Extension Vegetable Program from the United States. Although sessions also targeted other crop health topics, Stemphylium was a notable interest.

Andy Richardson, who is well regarded for his allium and brassica agronomy, spent early February touring the main onion growing regions of New Zealand and interacting with growers. In a presentation session in Pukekohe, Andy outlined some research and patterns of crop disease he has explored in the United Kingdom and wider Europe.

In a later event in March, Christy Hoepting and Daniel Heck led an online webinar outlining the research they have completed in New York and other regions in the United States. Their findings surrounded patterns of most successful disease control and research into agrichemical resistance.

Theories and solutions

These two events allowed the industry to discuss and collaborate on theories and solutions regarding Stemphylium. Below are highlights of major themes and solutions discussed and suggested by the literature.

Temperature and Environmental Conditions

Stemphylium leaf blight infection and disease development are favoured by temperatures between 18–25°C, humid conditions and long periods (>8h) of leaf wetness. Particularly warm and humid conditions over the past few seasons may have caused more days within the growing period where sporulation for the disease is favourable.

Solution: disease forecasting & crop micro-climates

How do we better predict when the ideal sporulation and infection period of the disease is? Although changing the weather is out of the question, we can better adapt the tools available to growers such as disease modelling.

Additionally, thinking of microclimates within the crop and controlling leaf wetness can reduce opportunities for ideal conditions and sporulation. Methods to reduce leaf wetness duration to reduce the incidence and severity of SLB include:

1. increasing plant spacing in seedbeds to facilitate air movement and rapid drying of the foliage
2. aligning rows of plants to follow the direction of the prevailing wind
3. irrigating crops during the late morning or early afternoon to allow leaf surfaces to dry rapidly.

Plant Health

Having healthy plants is important to control common foliar diseases, as a pathogen is more likely to infect a plant in poor health. Although plant health is a combination of many factors like environment, nutrition, irrigation and soil health, for example, making sure the plant health factors that we do have control over are well managed is a good crop protection method in itself.

Solution: nutrient and plant health focus

During a year when environmental conditions make plants more susceptible, focusing on good plant health through nutrition may alleviate the severity of Stemphylium in the crop. Plant nutrition can be supported by regular soil and leaf tests to inform of plant health requirements.

Overwintering and Other Crop Infection

Stemphylium leaf blight has a wide range of hosts that will allow the disease to remain dormant or reproduce even after the onion plant is harvested. This means a higher risk of disease infection in the subsequent crop where spores are present and available for inoculation.

Solution: cultural practices

Cultural practices that reduce the ideal conditions for Stemphylium spores to overwinter in other plant material will help manage the numbers present to affect the next season's crop. This can be done by removing all suitable hosts or volunteer plants in the area, or by reducing the amount of dying and dead plant debris in the field. Burying

plant residues after harvest will also encourage suitable plant material to break down.

Fungicide Resistance

Fungicide resistance or the genetic adjustment and mutation of a fungus species to become less sensitive to a fungicide product, will over time render some chemistry ineffective. In Christy Hoepting's session in March, she outlined different fungicide groups or modes of action and how they have behaved in different field trials. Some types of fungicides are more likely to encourage fungicide resistance in Stemphylium.

Solution: incorporating fungicide resistance into spray programmes

Fungicide resistance is more likely to occur with the use of fungicides under different Fungicide Resistance Action Committee (FRAC) codes. Making sure to be selective about the chemistry used during the season to minimise the use of more susceptible chemistry will reduce the risk of resistance developing in pathogens.

Conclusions

The points discussed here are only an outline of theories and solutions. There are other factors not discussed here that could provide further insight, such as how the severity of the disease is affected by plant damage from other diseases or herbicides. It is evident when we refer to literature and agronomists that the whole ecosystem of growth should be considered. Together with growers, we are looking at further tools to support plant health, immunity, and cultural disease control. ●

FURTHER RESOURCES

Resources for Stemphylium leaf blight control are available on the Vegetable Research & Innovation resources library accessible from <https://www.vri.org.nz/search/>



If you would like to access the presentations and recordings of recent agronomy sessions, log in to the Onions New Zealand resource library at <https://onionsnz.brandkit.io/>



FROM HORSE FLOATS TO HARVESTERS

When it comes to an engineering challenge, Mark and Alanna Aarts apply Kiwi ingenuity and a 'can do' attitude to come up with a manufacturing or repair solution to meet the grower's needs.

The Aarts family are well known in the Franklin area, with Gerry Aarts and his siblings growing crops around Manurewa, Tuakau, Pukekawa and Onewhero over many decades. When Gerry and Yvonne started a machinery importation business in the early 1980s, (including among their imports the well known Hilder Potato Harvesters), it was perhaps natural that their son Mark might gravitate to this side of the business. Mark learned to modify existing machinery to suit not only their own business and soil types, but also to assist other growers with site specific solutions. This extended to the development of custom manufactured machinery, including their own onion harvester.

Mark continued to develop new and improved horticultural machinery, including cauliflower cutting machines and harvesting trailers, large custom trailers, also modifying machinery for local growers.

As the growing side of the business wound down in the early 2000s, a large 2400m² packhouse on the farm represented the perfect opportunity for a conversion to a re-purposed engineering and manufacturing workshop. Conveniently located in Tuakau, the manufacturing hub is the perfect site to offer growers, truck owners and trainers a 'drive-in' repair service. It was at the end of 2011 when Alanna and Mark purchased Thoroughbred Floats. With Alanna's background in horses and export marketing and Mark's skills in engineering, they shared a vision to make this long-established name in horse floats the nation's best. It was a natural fit too with the existing business and ensured good utilisation of the engineering team on site, which by now had expanded under the care and guidance of Mark and Alanna.

"The business has now grown into a major manufacturing, repair and modification hub for harvesters, horse floats, trailers and trucks," Alanna says. The couple are rightly proud of their thriving engineering business and are looking forward to providing a seamless, solutions-based service to the horticulture and transportation sector across the upper North Island. ●



If you have a challenge for Mark and Alanna contact Thoroughbred Engineering on **09 2368 175**



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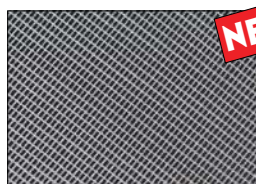
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