

NZGROWER[®]



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HORTICULTURE NEW ZEALAND

ADAPTING IN UNCERTAIN TIMES

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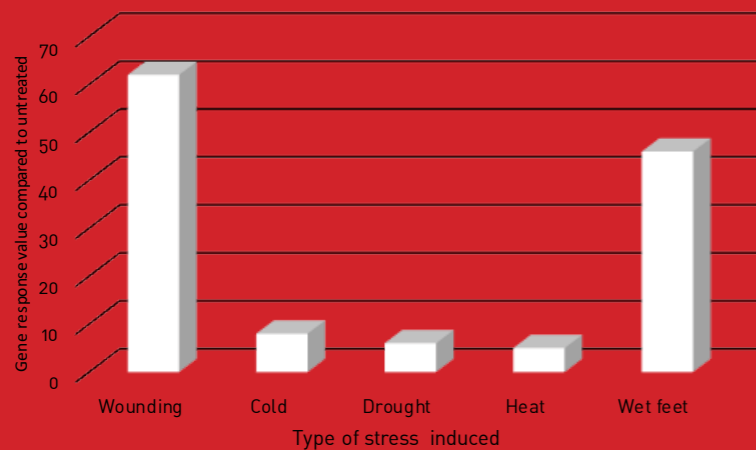


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ON THE COVER:

Roper & Son sell 850 tonnes of red onions annually, see page 24. Photo by Heather Woods.



THE AGM - JUST A YEARLY RITUAL?



Words by Barry O'Neil, President : Horticulture New Zealand

It's that time of the year. Annual General Meetings are rife and this year for an added twist due to Covid-19 restrictions we are trying to do these by Zoom or webinar, which makes them even more exciting!

I understand that many of us don't get overly excited about sitting through an AGM, but the reality is an AGM apart from being a requirement by law, is also the opportunity for members to raise issues they want clarified or to suggest the organisation focuses on or deals with differently.

At AGMs we don't always have the discussion in the areas that I am sure many in the audience would want to hear, in order for everyone to better understand the organisation's position. So I thought I should try and cover a few areas that some of you may have questioned or wondered, that may help clarify but also may become a prompt to engage with us at our AGM on 25 September.

Over the last twelve months working with our members and Product Groups we have renewed our strategy to ensure we are concentrating our efforts on the areas that will make the greatest improvements to growing, and then advocating and influencing government accordingly. Our purpose has not changed, to create an enduring environment where growers thrive. I think we have got it right, but feedback always welcomed!

We focus on sector wide priorities that all growers benefit from, and promote and advocate for a framework that will enable future horticulture growth, without picking any specific fruit or vegetable winners. We have 21 affiliated Product Groups and they work on the specific needs for their growers, but when we have common issues we try to work collaboratively, and Horticulture New Zealand often facilitates this process. I personally think we need to be seeing more collaboration as it makes no sense to me why we need to reinvent the wheel.

I sometimes hear from fruit Product Groups that they believe with our Resource Management Act and environmental activities we are putting most of our energies into vegetable growing issues. We try very hard to ensure our efforts are not favouring one sector over another, and to focus on getting the best results for all growers to prosper. Sometimes there will be government policies that are impacting on one area at a point in time more than others, such as with freshwater reforms impacting more on the vegetable sector currently. But to me this will be swings and roundabouts, with future governments bringing no doubt different priorities and areas of focus.

I often hear we are not putting enough effort into labour, and that we are not being hard enough on decision makers and politicians. Labour is without doubt one of the most crucial industry enablers for future success, but unfortunately in a Covid-19 world there are just so many

uncertainties. While we were getting close to a Pacific bubble opening, with the resurgence of community transmission this is now not going to happen in the short to medium term, so we are left with big challenges for the Recognised Seasonal Employer (RSE) scheme. We have a great collaborative model working between HortNZ and Product Groups on labour and are proactively engaging with officials and key ministers on RSE and migrant labour policies that will support future industry needs, as well as getting more Kiwis into horticulture. As growers I believe we can be confident that what can be done is being done.

“
We have renewed our strategy to ensure we are concentrating our efforts on the areas that will make the greatest improvements to growing

I do not condone that we adopt the behaviour of some others, thumping the table and demanding. I don't believe this achieves anything other than releasing hot air and encouraging the government decision makers to avoid working with those that act in this way.

I hear sometimes that we are too focused on domestic production and not sufficiently recognising the needs of export groups. HortNZ is

not a market access organisation, and during our strategy review we received strong feedback from Product Groups that trade policy shouldn't be a priority for us. Our focus therefore is on enabling growers to do what they do best, grow, without unnecessary burdens and compliance costs. We are agnostic as to whether growers are domestic or export focused but recognise that we do need to feed our populations, and that horticulture is an important part of our economy. Industry and Product Groups must have the customer focus to support their growers supplying what consumers are wanting and needing, whether that be domestic or international.

Sometimes I hear comments that we are putting too much effort into biosecurity, or alternatively not enough. Biosecurity is an area of such importance we are and will continue to be totally committed to policy and resource settings that deliver the best results for the sector. We don't lead on specific pests and pathogens unless asked by Product Groups, but we are absolutely focused on the government providing border and biosecurity settings that manage the plethora of threats to the wider sector. Personally I believe we have too much duplication happening within biosecurity at the moment, and collectively we need to address some of this, for instance whether we can do better than having 15 industry people all turning up in Wellington for a Government Industry Agreement (GIA) administration meetings.

Lastly there are no doubt thoughts about whether the AGM will consider increases in directors' fees. Director fees are not something we as a board have control over, rather we use an independent remunerations committee to make any recommendation on changing fees directly to the AGM for members to vote on. Directors record what activities they perform, including how much time they are putting into their roles, and the independent committee considers this, looks at other like bodies, and also the Institute of Directors fee comparisons, then tries to land on the appropriate fees for these roles. This year due to Covid-19 impacts our directors decided to voluntarily reduce their fees, so no resolution will be put to our AGM on director fees this year.

AGMs should not be a yearly ritual, but rather they are meetings that give us all the opportunity to engage with and give the board of directors feedback and suggestions on how the organisation could be doing even better. They are also the place where new directors are selected or announced, and as such are an opportunity for members to ensure that directors are also very much held to account.

I hope you can participate in our Covid-19 delayed Zoom AGM and look forward to any general business discussion! ●

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COVID'S IMPACT CONTINUES



Words by Mike Chapman, Chief Executive : Horticulture New Zealand

As I write this column, Covid-19 has again imposed itself on New Zealand; not that it or its impacts had really gone away since our first period of lockdowns earlier this year.

The horticulture industry has been engaged in two significant campaigns since 11 August, when the decision was first made to impose Alert Level 3 restrictions on the Auckland region and Alert Level 2 on the rest of the country.

We have campaigned long and hard for independent fruit and vegetable retailers to be allowed to remain open during Alert Levels 3 and 4. We restarted this campaign on 11 August so *all* Aucklanders could continue to have access to fresh and healthy fruit and vegetables.

Not only does up to 60% of fruit and vegetables find their way to the end consumer through independent retailers and other means, such as farmers' markets, but these closures will have a lasting effect on our country's fresh produce supply chains. While we appreciate the need to contain Covid-19, there is also an equally important need for New Zealanders to have access to healthy food. What we need to do is make sure we can achieve both goals.

The second issue has been the operation of the Auckland border: ensuring that essential horticulture workers can get to and from work, and the border movements associated with production can continue.

About a third of New Zealand's fresh vegetables are grown in the Pukekohe hub. The issue here is that the Pukekohe hub straddles the Auckland and Waikato boundary.

We estimate that there are up to 2,000 production border movements each day with many tractors, trucks and workers crossing and re-crossing the border multiple times. While the cost of delays has not been estimated, it would be in the order of thousands of dollars.

While it is significant that the horticulture industry has been one of the few industries to be exempt from Alert Level 3 requirements in Auckland, considerable effort has had to go into ensuring essential horticulture workers can travel in and out of Auckland without undue uncertainty or delay (delays of up to two hours have been reported).

New KPIs and HortNZ's AGM

At last year's Annual General Meeting the Horticulture New Zealand Board were asked to develop some new Key Performance Indicators (KPIs) for reporting back to the AGM on how effectively HortNZ is operating. The first step the Board took working with our staff was to refresh the HortNZ strategic plan. The key change was to develop out of the previous plan four goals, five priorities and a section on how HortNZ works. The KPIs were then crafted based off the new strategic plan, reporting on each of the priority areas: see page 6 for the KPIs. The Board has named these KPIs the "Warrant of Fitness". This is because they report on the day-to-day business of HortNZ and because

they give an assessment of how well HortNZ is performing.

The warrant of fitness KPIs reflect that HortNZ is very much a relationship organisation. This is evident from the valued partnership and advocacy KPIs. It is no accident that HortNZ is based in Wellington where central government is located. A vast majority of HortNZ's work is with government and with the groups that make up the horticultural industry. In many ways this is a facilitation role between industry and government on horticulture wide issues. HortNZ needs to act as the 'canary in the mine' for government initiatives, develop responses working with the Product Groups and District Associations and collectively present a horticultural view to the government. As a horticulture collective we aim to draw on the expertise within the industry to lead the response, and that expertise might not necessarily reside with HortNZ. The combined horticulture sector letter to the Prime Minister supported by all Product Groups asking that under Level 3 lockdown independent fruit and vegetable retailers be permitted to open is a recent example of us all working collectively for horticulture.

The Covid-19 Recovery Strategy is another good example of HortNZ's facilitation role. This strategy was developed by the Product Groups and HortNZ as a whole of horticulture response to horticulture's and New Zealand's economic recovery from Covid, which has been made all the more difficult due to Auckland's recent community transmission cases. The eleven workstreams that

are now being implemented are led by the best people in horticulture and the workstream leaders come from HortNZ and Product Groups. Government is also a key member of the workstreams. This is because through our workshopping it became clear that the Covid recovery will only be successful if it is *industry led, government enabled*.

“**While we appreciate the need to contain Covid-19, there is also an equally important need for New Zealanders to have access to healthy food**

This leads directly into enabling horticulture and warrant of fitness KPIs. These priority areas encapsulate HortNZ's core work with specific reference to biosecurity, labour supply, upskilling our workforce, health and safety and certification through the GAP (Good Agricultural Practice) schemes. HortNZ's work teams are arranged around these core work activities. But in all of them we reach out to both government and the horticulture groups. This is because HortNZ cannot achieve the success we need for growers without the direct involvement of the Product Groups, District Associations and all growers.

The final warrant of fitness area is focus on the future. This is about

The Covid recovery will only be successful if it is *industry led, government enabled*



expanding the strategic vision for horticulture and preparing us all for challenges and emerging risks. Our collective Covid response is a prime example. The Product Groups and HortNZ are meeting weekly, and during Level 2, 3 and 4 lockdowns daily, with government as required to sort out current and future issues as we transition (hopefully) out of Covid.

A report on progress with HortNZ warrant of fitness KPIs will be made at the AGM on 25 September in Pukekohe and published in the magazines. Covid is making this AGM somewhat shorter than normal and it may have to be run completely by Zoom. Even if we hold a physical present meeting in Pukekohe, we will Zoom the meeting to those who cannot make it. On the same afternoon Vegetables NZ, Onions NZ, TomatoesNZ and NZGAP will be holding their AGMs as well. Also, the day before the Agroecological Crop Protection research programme will be giving an update on their progress. Closer to the time we will advise what we are doing with all the AGMs and pass on the advice from the Agroecological programme as to what will be happening: all Zoom or a mixture of present in person and Zoom. ●



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Warrant of Fitness 2020-2021

Priority area	Measure	Rationale
Valued Partnerships 	Number of active partnerships between HortNZ and the Government	This will demonstrate whether the Government seeks to actively work with HortNZ
	Percentage of growers who i) respond to the annual survey and ii) rate HortNZ high or very high on the delivering value question	Growers who take part in the survey are actively engaging to provide their thoughts about HortNZ. The percentage who rate HortNZ high or very high gives an indication of the perceived value that HortNZ provides to growers
	Number of Product Groups that have work allocation agreements with HortNZ	Indicates the degree of engagement with HortNZ
Enabling horticulture 	Growth in the horticulture sector by i) value and ii) hectareage	Growth is a proxy for the right regulatory and policy settings being in place – one of HortNZ's focus areas
Advocacy 	Pick up of HortNZ communications	This measure is not how many media releases or social media postings are made – but rather, as a result of those releases and postings, how many are picked up and repeated
	Number of invitations for HortNZ to participate in discussions at the early stages of policy/regulation development	Measures how effectively HortNZ is working with government departments, agencies and councils, etc
	Number of Product Groups represented by HortNZ in biosecurity meetings	This is an indication of a service provided by HortNZ to product groups that directly reduces duplication
People 	Number of people applying for HortNZ scholarships and the HortNZ leadership course	This would be measured year on year to see if we are attracting people into the horticulture industry. If we are successful in this space, more and more people will seek to participate in these HortNZ initiatives
	Number of kiwis placed in work by the Career Progression Manager network	Measures how effective the Career Progression Managers are at attracting and placing New Zealanders in horticulture
Fit for the Future 	Number of submissions made to central and regional government enabling growing in the future	Measures HortNZ's work output that is focused on enabling growing in the future

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YOUR LEVY AT WORK



INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD

NATURAL RESOURCES AND ENVIRONMENT



AIR

Review of NZS8409

The Standards Development Committee are undertaking a review of NZS8409:2004. These national standards set good management practice for the transportation, storage, supply and use of agrichemicals. They are often referred to in (or applied directly by) regional council air quality regulations. The draft standard is anticipated to be finalised end of August 2020 and feedback will be sought in September or October. Horticulture New Zealand is working closely with Product Groups and experts to ensure a workable outcome.



WATER

The government finalised the Action for Healthy waterways reforms with the delivery of the National Policy Statement for Freshwater Management 2020 (NPSFM 2020), National Environmental Standards for Freshwater (Freshwater NES) and new water metering regulations, which come into force from the 3 September 2020.

NPSFM

The new National Policy Statement for Freshwater Management (NPSFM) sets out a revised framework for freshwater management (requiring limits and minimum flows and so on to be set). Regional councils must notify a freshwater plan no later than 31 December 2024 to give effect to the NPSFM 2020.

Of note, it includes specific recognition of defined areas of vegetable growing in Pukekohe and Horowhenua. This allows a regional council to set a water quality target below a national bottom line, however water quality must still be improved. This policy applies for a period of 10 years, or until a vegetable specific National Environmental Standard is introduced.

Water regulations

The new Freshwater National Environmental Standards include provisions of relevance to horticulture which apply in relation to activities in and near natural wetlands and other activities in rivers.

Amendments to the Measurement and Reporting of Water Takes Regulations introduce the requirement to measure water take in each 15 minute period and to provide daily electronic records to regional council. The regulations only apply to consents to take five litres or more of water per second. There is a phased implementation period (applying to larger users first). The first compliance deadline is 3 September 2022.



LAND

Biodiversity Strategy

Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020 provides the overall strategic direction for biodiversity in Aotearoa New Zealand for the next 30 years.

Horticulture New Zealand sought feedback on the strategy from Product Groups and District Associations, and provided comments on the proposed strategy in September 2019.

HortNZ supported the overall vision and sought recognition of the importance of ecosystem services in supporting food production. These values are recognised within the strategy:

Our international brand and domestic tourism, our resilience to climate change, the health of our fisheries, forests and productive soils - these are all dependent on the ecosystem services provided by healthy nature. There are also cultural, social and human health benefits that need to be recognised and considered as part of the value of nature.

Te Mana o te Taiao is a visioning document that is intended to be implemented through various means, including national policy as well as policy and rules within the regional and district Plans, that impact on the protection and restoration of biodiversity. An implementation plan will be released in 2021.

HortNZ also submitted on the proposed National Policy Statement for Indigenous Biodiversity (NPSIB) earlier this year. The government is still considering submissions. The timeframe for the delivery of the NPSIB has been extended until April 2021.



CLIMATE CHANGE

The recently passed Resource Management Amendment Act 2020 made changes to the ability to consider climate change as part of Resource Management. This aligns with the evolution of broader climate change policy, including the policy goal to transition to net zero carbon emissions by the second half of the 21st Century.

This means that from 31 December 2021:

- the sections of the Resource Management Act which prevented Councils from being able to consider the effects of discharges of greenhouse gases on climate change will be removed and
- councils must have regard to emissions reduction plans and national adaptation plans (prepared under the Climate Change Response Act) when making or amending their regional or district plans.

“

Our international brand and domestic tourism, our resilience to climate change, the health of our fisheries, forests and productive soils - these are all dependent on the ecosystem services provided by healthy nature



REGIONAL AND DISTRICT POLICY

Hawke's Bay TANK Submission (water abstractions and discharges)

HortNZ has made a submission on the TANK plan in August. This is the Regional Resource Management Plan to manage water quality and quantity for the Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchments.

The development of the submission was informed by meetings with the Primary Sector, Product Groups, Hawke's Bay Fruit Growers, Hawke's Bay Vegetable Growers Associations, and grower meetings.

We are working with growers and NZ Apples and Pears, NZKGI, Zespri, Summerfruit NZ and Process Vegetables NZ to progress Farm Environment Plan (FEP) case studies to aid our evidence. HortNZ will present water quality, hydrology, farm systems, economic and planning evidence to support the HortNZ submission.

Otago Plan Change 7 (water abstractions)

The Minister for the Environment used his powers to 'call in' this Plan Change. This means that there are no appeals, other than appeals to the High Court on procedural matters.

Plan Change 7 (PC7) proposes an objective, policies and rules that manage the replacement of deemed permits (also known as mining privileges) expiring in 2021 and any other water permits expiring prior to 31 December 2025 (the date by which a new Regional Land and Water Plan is expected to be operative). The Plan Change also introduces a new policy regarding the duration of new water permits.

PC7 was previously notified by the Otago Regional Council earlier this year. HortNZ lodged a thorough submission at that point. Due to legal obligations, the Environmental Protection Authority (EPA) has re-notified PC7, along with PC8 and PC1. However, all submissions lodged will be considered with equal weight and therefore HortNZ will not be lodging an additional submission.

Waikato Plan Change 1 Appeal (water discharges)

The independent panel's decision on the Waikato Plan Change 1 Appeal has been accepted by Council, and was notified in May.

The decision had positive elements, recognising the importance of vegetable growing and allowing for some expansion of vegetable growing. However, there are some practical constraints with some of the proposed provisions.



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The Plan provides a permitted pathway for fruitgrowing, but requires vegetable growers to gain consents. It requires certified and audited Farm Environment Plans for all activities.

HortNZ lodged an appeal in July following a series of meetings with growers and Product Groups to refine and communicate appeal points. The key points of the HortNZ appeal are as follows:

- Ensuring vegetable rotation can occur across multiple properties and between sub-catchments.
- Enabling low and moderate nitrogen leaching vegetable production to expand without any area limits.
- Enabling high leaching vegetable production to expand within more sub-catchments than provided in the version of the Plan Change upon which decision was made.
- Changes to ensure certified sector schemes can effectively manage and audit farm environment plans.
- Changes to provide more flexibility in the format of Farm Environment Plan maps.

Pukekohe Vegetable Growers Association (PVGA) has determined to lodge its own appeal in order to broaden opportunities for discussion in mediation. The PVGA appeal aligns with HortNZ's appeal.

Horizons Plan Change 2 evidence (water discharges)

HortNZ and growers have attended pre-hearing conferencing where we strongly advocated that commercial vegetable growing should be recognised with its own policy and rules framework, particularly due to importance of the vegetables grown in the region for domestic food supply, and because of the diverse range of crop rotations, and the need to rotate crops to support soil health.

The HortNZ submission will be supported by economic, farm systems, water quality, planning and legal experts. These experts that have been participating in expert witness conferencing.

HortNZ is working with Potatoes NZ which has its own submission on the Plan Change focused on presenting recent evidence that demonstrates that potatoes grown in pasture rotations could expand in area without increasing water quality impacts.

HortNZ is also working closely with Vegetables NZ, NZGAP (Good Agricultural Practice) and Tararua Growers Association to support vegetable growers in Levin to develop robust Farm Environment Plans, using the Environmental Management System developed by NZGAP. In giving evidence, the HortNZ team will explain the benefits of a collective approach to farm planning. ●



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CARDS PROMOTE HORT CAREERS

Words by Anne Hardie

A group of Tasman Year 13 students have created a card game about careers in horticulture that has come up trumps, with packs of cards being taken up by schools around the country.

The five Waimea College business studies students had to find a gap in the education system and come up with a solution, which led them to the lack of information about careers in primary industries. They focused on horticulture, working with the industry to find out what was needed, then using a survey to gather information from Year 8 to 10 students about the way they liked to learn - which wasn't lectures or reading screeds of text.

An app was the first thought, but students could easily be distracted by other options on their phones. So they turned to cards, following the typical top-trumps type of game, then tested the game on that age group in schools.

One of the team members, Emma Fox, says the reason they chose that age group was because they wanted to get students thinking about career options before they reached NCEA (National Certificate of Educational Achievement) levels.

"When you get to NCEA levels, you choose the subjects you will want as you get older, so we wanted to influence them before that."

Moab Heynekamp, also part of the creative team, says their research showed the younger students needed to get as much exposure as possible to potential careers in the primary industries for them to make those subject choices later.

A pack of cards is made up of 40 different jobs in the horticulture industry and each gives the job's salary potential, length of training, hands-on level and rates its job opportunities. The card then gives a short description of that career. The graphics were designed by the team's graphic whizz, Toby Collett. Up to five people can play the game together and in the classroom setting, it's designed as a fun way to learn about the wide range of careers in the industry that go beyond the image of simply picking fruit.



The creators of the card game, Toby Collett (left at back) and Moab Heynekamp, with Emma Fox and Bree Anderson. Nadia Cregeen (absent) is also part of the group.

Bree Anderson admits they didn't know most of the horticulture careers outlined on their cards even existed and that is typical for their age group. Such as a career as a geneticist studying the role that genes play in disease and health. In their survey among students, more than 70% did not know what primary industries meant and what they involved.

For us, seeing all those jobs in horticulture opens up those pathways in the future

“**For us, seeing all those jobs in horticulture opens up those pathways in the future**

Their business group is part of the Lion Foundation Young Enterprise Scheme which is an opportunity for budding entrepreneurs to experience the start-up world first hand and run a real business.

The card game has excited the GoHorticulture careers team at Horticulture New Zealand which has financially partnered the business enterprise. GoHorticulture will now take the orders for the cards and distribute them, working with CATE (Careers and Transition Education Association NZ).

Within the first week the cards were made available, Nelson Tasman Careers Progression manager, Robyn Patterson, says 400 orders were received from schools around the country. ●

Thinking vegetable seeds? Think **Terranova**.

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- Best suited to summer and autumn harvest.
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- Large plant frame size. Short round core.
- Flattened round head shape. Average head weight 2.5 to 3.5kg.



Lambada

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- Good field holding ability.
- Large plant frame size. Short round core.
- Versatile harvest time slot.

Hybrid Chinese Cabbage



Autumn Treasure

- Best suited to summer and autumn production.
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- Versatile variety with good vigour. Harvest window can extend into winter in milder regions. Not suitable for spring harvest.
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- Average head weight 2.0 - 2.5kg.



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FARM ENVIRONMENT PLANS IN HORTICULTURE



Words by Damien Farrelly, NZGAP and food safety manager at Horticulture New Zealand

A Farm Environment Plan (FEP) is a tool used to support growers to assess their environmental risks, take action where required, and demonstrate progress on environmental objectives.

The objective of FEPs is to minimise the impact of horticulture and farming on the ecological health and amenity value of New Zealand's waterways. In addition to farm maps, an FEP includes the following management areas:



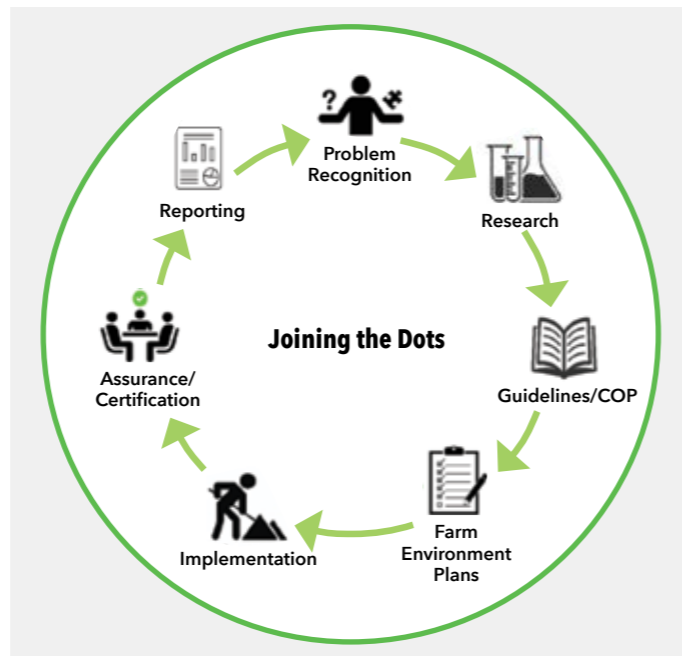
In the near future, agricultural emissions (e.g. nitrous oxide from fertiliser use) are also likely to be included in FEPs to support growers with meeting the Zero Carbon Act 2019 and He Waka Eke Noa (a primary sector partnership to reduce on-farm agricultural emissions).

Growers and the horticulture industry are already very familiar with Good Agricultural Practice (GAP), and an FEP is essentially an extension to this existing assurance system. The primary focus of NZGAP and GLOBALG.A.P. certification is food safety risk assessment and management. While there are elements of environmental management in these standards, they do not currently meet the extensive New Zealand regulatory expectations for FEP content and implementation.



The primary focus of NZGAP and GLOBALG.A.P. certification is food safety risk assessment and management

As a result, NZGAP has developed the Environment Management System (EMS) add-on with the purpose of supporting growers to meet regulatory expectations for an FEP as an extension to their existing GAP system.



The Good Management Practices (minimum requirements) and Best Management Practice (aspirational environmental outcomes) identified in the EMS are incorporated from relevant industry guidelines and Codes of Practice, which have been developed from evidence-based research and have been tested with New Zealand growing systems.

In a similar way to how NZGAP is benchmarked to and recognised by GLOBALG.A.P. and the Food Act 2014, the EMS add-on has been benchmarked to regional and national FEP requirements and is already formally recognised by Environment Canterbury. This means that growers can meet multiple market and regulatory outcomes via the one NZGAP integrated assurance system. NZGAP is now seeking to integrate data from the development and implementation of FEPs into reports for growers, catchment groups and industry bodies to support telling of the horticulture story via our 'joining the dots' framework. ●

For more information on FEPs and the EMS, visit www.nzgap.co.nz



LOCKDOWN DÉJÀ VU

Words by Glenys Christian

Level 3 lockdown brought up a number of issues for Pukekohe growers and some independent fruit retailers in Auckland.

At the start of lockdown some growers were spending from one to two hours in traffic queues just to get to production sites around Tuakau and Pukekohe, said Pukekohe Vegetable Growers Association (PVGA) president, Kylie Faulkner.

Not only were they being delayed because of heavy traffic flows but they were being questioned on their documentation. While the Ministry for Primary Industries (MPI) had applied for an exemption for horticulture, it was only approved by the Ministry of Health late on Sunday night, over four days into the lockdown.

And for some independent fruit and vegetable retailers it was a replay of earlier in the year when they were unable to open, or in some cases closed down by the police.

Mike Lum from Jack Lum's in Clonbern Road, Remuera, said this time they were able to operate without contact with customers.

"We're giving it a go," he said.

But he estimated sales were still well down on normal levels by around 30%.

"People buy with their eyes," he said.

"Ninety-nine out of a hundred don't have a shopping list."

Fruit World's financial controller, Lindsay Hotham, said based on the knowledge its stores had gained in the last lockdown they were all able to open. But there had been some issues getting the necessary supplies of some vegetable lines they needed because harvesters had to be spaced out. And some stores were having trouble displaying QR code posters as required to link customers to the government Covid-19 tracing app.

ACT Leader David Seymour once again campaigned against what he called arbitrary and unfair rules under which supermarkets, petrol stations, dairies and pharmacies were able to trade but greengrocers, butchers and bakers could not, which brought on a sense of déjà vu. One fruit and vegetable store he described as iconic in his Epsom electorate, "has simply given up and closed under the current rules".

"Forcing people to travel further to visit a smaller number of bigger and busier stores undermines the goal of stamping out the virus," he said.

Common sense rules should be put in place to allow a wider range of businesses and services to open on the basis of whether it was safe for them to operate rather than whether they provided an essential service.

Auckland Business Chamber chief executive, Michael Barnett, echoed his comments, saying there were a large number of firms that could comply with Level 3 conditions and should be allowed to open. ●

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HAVE YOU GOT AN ON FARM/ ORCHARD BIOSECURITY PLAN?

Words by Anna Rathé, Biosecurity manager : Horticulture New Zealand

The whole horticulture sector benefits from the adoption of good on farm/orchard biosecurity practice.

The New Zealand horticulture industry is fortunate to be free of many of the damaging pests, pathogens and weeds that growers overseas have to manage on an ongoing basis. Adoption of good on farm or orchard biosecurity practices is critical for the continued success of the horticulture industry. These practices can help to:

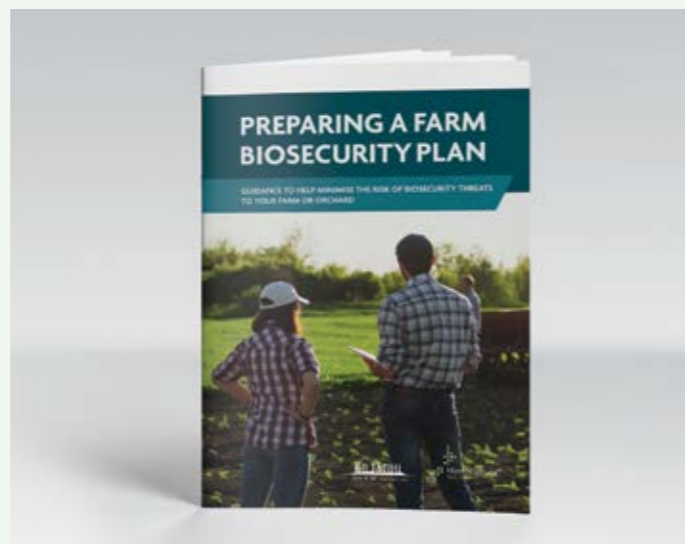
- prevent new pests, pathogens and weeds from establishing in New Zealand
- reduce the spread of pests, pathogens and weeds to new areas
- prevent pests, pathogens and weeds being introduced to your property
- aid management of pests, pathogens and weeds that are already here.

Why do you need a biosecurity plan?

The best defence for your property against biosecurity threats such as pests, diseases and weeds is to have sound biosecurity practices in place - this will help to protect your farm, your orchard, and your future.

Creating a biosecurity plan for your property is a good way to understand your on farm biosecurity risks and identify simple but effective everyday biosecurity practices to manage these risks. The practices you select will be unique to your property, production method, and the surrounding environment. Good practices don't need to cost a lot of money, but they do need to be clear and easy to follow. Once put in place they will likely provide ongoing day-to-day benefits, and will be invaluable if a biosecurity event were to happen.

Horticulture New Zealand has produced a pan-sector guidance booklet to help growers prepare a farm biosecurity plan. The guide is designed to help you identify and prioritise biosecurity risks relevant to your property and understand how you could take action to address the identified biosecurity risks.



The guidance booklet outlines and explains the five key steps to preparing and implementing a biosecurity plan for your farm or orchard. These steps are:

- Step 1: Review property map
- Step 2: Identify biosecurity risks and mitigating actions
- Step 3: Prioritise
- Step 4: Communicate expectations
- Step 5: Implement actions

For details view the full guidance booklet - contact us at HortNZ if you would like to be sent a hard copy, or download a PDF from the website (www.hortnz.co.nz). For further biosecurity risk management information and resources contact your industry body in the first instance. ●

The importance of on farm biosecurity

Biosecurity is **crucial** for the ongoing sustainability of the horticulture industry.



Decisions you make at the farm or orchard gate are essential to protect your property.



Every person who visits or works on the farm or orchard has a role in managing biosecurity risk.

IT'S YOUR ASSET - PROTECT IT!

Adopting good on farm biosecurity practices makes you a biosecurity champion!



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HELPING WOMEN BACK INTO WORK

Words by Elaine Fisher

The economic impacts of Covid-19 have been disproportionately hard on women, who account for 90% of those no longer employed, according to Statistics New Zealand's June quarter labour market statistics.

Employment fell 0.4% over the period, which equated to 11,000 fewer people in paid employment. Of those, 10,000 were women.

With retail and hospitality industries which traditionally employ significant numbers of women hardest hit by the downturn that's not entirely unexpected, but one Horowhenua horticultural company has an employment plan designed to keep women in work.

Emma Clarke, sales and human resources manager and director for Woodhaven Gardens and Women in Horticulture member, says three years ago the Levin based family business set out to attract more Kiwi staff, women in particular.



"We also wanted to reduce our reliance of RSE (Recognised Seasonal Employer) scheme workers and those on working holidays. As a former solo mum myself I know how important flexibility in the workplace is for mothers, so we set about designing a plan which would suit women and give them the opportunity to come off the domestic purposes benefit and earn more."

Together with Work and Income, Woodhaven also helped the women arrange paid childcare for holidays.

Among the first questions asked by Woodhaven when employing staff, is what their family commitments are. "If they need to be able to drop children at school and pick them up, then we find roles for them, usually in the packing shed, to give that flexibility."

Key to the plan working is good communications between staff and employer. "We need to know each day how many



Emma Clarke (centre) with two of Woodhaven's staff Leah Hapi and Leandra Duivenvoorde, and Cooper, aka Cooperdoodle the dog

staff we will have. We have a core of staff who start work at 7am and are here all day, supplemented by those who come a little later and leave earlier."

"Around half of our 225 employees are women and because of the flexibility arrangements we probably have 20% more staff than would be needed if all were full-time.

"However, our mums are great workers and give 100% while they are here. I would rather have that commitment and speed for five hours a day than not have them here at all."

Providing flexibility and a supportive workplace is also essential to helping women back into the workforce. "If you have been out of employment for some time, it's not easy to go back to working five days a week. Some women have also lost confidence in themselves and that needs understanding."

The loyalty engendered by Woodhaven's approach to giving women new opportunities is rewarding, says Emma. "At Christmas when we are very busy, some staff have paid extra for childcare so they can work longer hours or more days. Some of the women have also gone on to become leaders and trainers in our business.

"The teenage children of several employees now work for us during school holidays, learning a good work ethic and helping their families. We have also seen strong friendships grow among our mums, providing a support network for them outside of work."

During Covid-19 lockdown many of Woodhaven's women employees had to stay home to care for children, but their roles were replaced by university students looking for work.

"My brother Jay Clarke saw the risks of Covid-19 coming before anyone was talking about lockdown and imported a full range of PPE (personal protective equipment) from China, so our staff had the best protective gear, which we needed because we couldn't keep them apart."

Woodhaven is not just a leader in equal opportunity employment. It is the 2020 Regional Supreme Winner in the Horizons Ballance Farm Environment Awards, run by the New Zealand Farm Environment Trust.

Winning the award was a highlight for Emma, her father John and brother Jay. "It was a major recognition of all we are doing to reduce our environmental footprint," says Emma, who grew up on the farm and returned full-time to Woodhaven in 1999 after completing a commerce degree at Massey University.

"I have a passion for the environmental side of our business. We were the seventh company in New Zealand to sign up to NZGAP (Good Agricultural Practice) and while it's important for our business to be seen to do the right thing, I also think you should do it from the heart regardless, in order to leave the business in a fantastic place for the next generation."

Woodhaven Gardens is a family business established in 1978 by Eric and John Clarke. It is unique for its size and crop diversity - 23 different vegetables, plus maize and ryegrass to improve soil health and reduce nutrient losses. Annually, they sell 27 million individual vegetable units, which is about 10% of the national supply, and contribute between \$30 and 35 million to New Zealand's GDP (gross domestic product).

“Our mums are great workers and give 100% while they are here

Woodhaven has significantly invested in reducing its environmental impact, adopting a science-led approach that balances conservation with commercial success. The Ballance award judges said major changes to farming practices have resulted in a significantly reduced environmental footprint, with further improvements ongoing.

"Woodhaven is a leader in research for the vegetable industry - contributing time, money and land in order to measure and provide evidence. This large-scale fresh vegetable growing operation is driving change in environmental sustainability."

Judges commended the Clarkes for shifting production areas in order to reduce nitrogen loss and minimise the impact on water quality. ●

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

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THE FUTURE IS FARM ENVIRONMENT PLANS

Words by Ailsa Robertson : Horticulture New Zealand

Since June 2020 the government has taken several steps, including introducing new rules, to manage New Zealand's freshwater resources. And since June we have seen a steady rise in the number of new horticulture Farm Environment Plans, and engagement from growers and industry bodies in this space.

In June, the government passed legislation requiring 'mandatory and enforceable' Farm Environment Plans, followed by a release of the 2020 National Policy Statement on Freshwater Management (NPSFM) and National Environmental Standards for Freshwater Management (NESFM) in early August that will come into force on 3 September 2020. The National Environmental Standards also include recognition of the importance of vegetable growing for domestic consumption in the defined areas of Pukekohe and Horowhenua. Most recently, the Ministry for the Environment (MfE) announced two new funding rounds for freshwater improvement projects, open in September 2020 and again in February 2021.

Amidst this shift in the regulatory landscape, we have seen a steady rise in the number of new horticulture Farm Environment Plans primarily through the NZGAP (Good Agricultural Practice) Environment Management System (EMS) add-on, and significant engagement by growers and industry bodies alike to better understand Farm Environment Plans as more than just a compliance requirement to meet regional regulation, but as a useful tool to manage the environmental risks of growing operations. This is a positive signal from horticulture and it shows that we are prepared for the changes afoot, and that growers are taking appropriate steps to manage their operations in an environmentally sustainable way.

The EMS add-on, developed by NZGAP for all GAP certified growers, provides an assurance framework and integrated system for growers to meet market and regulatory requirements, and has a comprehensive Farm Environment Plan template designed specifically for horticulture. **To find out more about the EMS add-on and Farm Environment Plans in horticulture, read the article by NZGAP on page 14.**

Vegetable growers primarily in Levin, Pukekohe and Canterbury, and asparagus growers from across the country have developed Farm Environment Plans through the EMS add-on this year.

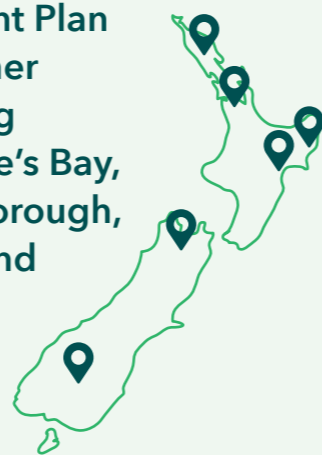
Two groups of growers in particular have demonstrated a collective approach to Farm Environment Planning. This collective approach tells a powerful story of growers working together in solidarity, and with support from their local district associations and Product Groups, to build a better future.

The first is a group of vegetable growers in Levin, who have recently completed their EMS audits, supported by Taranaki Growers Association, Vegetables New Zealand, and Horticulture New Zealand. This group represents 87% of cropped land in the Lake Horowhenua catchment.

Read a spotlight story on one of these growers, Travis Young, on page 52.

The second is a group of asparagus growers, who collectively produce 90% of all asparagus in New Zealand. These growers assembled for a one-day comprehensive Farm Environment Plan workshop in Taupō, funded by the New Zealand Asparagus Council and supported by HortNZ. In the workshop they developed their plans together with a consultant to a point close to completion, and will finalise their plans ready for audit in the coming months.

HortNZ has been contacted to facilitate Farm Environment Plan workshops in other regions, including Pukekohe, Hawke's Bay, Gisborne, Marlborough, Central Otago, and Northland



Since June, HortNZ has been contacted to facilitate Farm Environment Plan workshops in other regions, including Pukekohe, Hawke's Bay, Gisborne, Marlborough, Central Otago, and Northland. Pukekohe workshops planned for August were postponed again due to the Covid-19 lockdown. In these uncertain times, we acknowledge that getting together is not always possible. And so we will also be building interactive and educational Farm Environment Plan resources online available to all growers, to be announced through the HortNZ newsletter.

If you would like know about Farm Environment Plan workshops in your area, or how to build your plan from home, please get in touch with your local District Association, Product Group, or HortNZ.

“**Vegetable growers primarily in Levin, Pukekohe and Canterbury, and asparagus growers from across the country have developed Farm Environment Plans**

More on the MfE Freshwater Improvement Fund

MfE has announced a funding round for freshwater improvement projects. This includes funding for reduction of sediment eroding from the land, wetland construction and restoration, stream reinstatements, estuary protection and restoration, and restoration of fish passage.

There are two funding rounds to open in 2020 and 2021. The first is a short six-week period, accepting applications between 7 to 21 September, and will prioritise investment ready projects. The second longer period will accept applications from 27 January to 10 February 2021 to allow applicants more time to develop their proposals.

Any legal entity can apply for funding, including iwi, local government, community groups, landowners, and non-governmental organisations.

For further information see: <https://www.mfe.govt.nz/more/funding/freshwater-improvement-fund>

It may be that some of the existing research and extension work that HortNZ or Product Groups are involved in could be used as in-kind co-funding in the application. If you want to discuss any ideas please get in touch. ●

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YOUNG GROWERS MEET COVID-19 CHALLENGE

Words by Glenys Christian




36 HARD TIMES FOR
HOP HARVESTS



At a visit late last year Gus Sonneveld (centre) explained the growing operation at Joshua Cymbidium to young grower group members, from left, Jaesung Lee, Gary Yee and David Sayers

Increased social media interaction may be the order of day for the South Pacific Seeds (SPS) Pukekohe Young Growers Group to keep in touch with each other in the short term.

Around 25 of the young horticulturalists usually attend a monthly breakfast meeting either on site at a growing operation in the area or in town to hear a guest speaker. But Covid-19 has got in the way of all that, said Sarah Butters, who is coordinating the group while Elise Price is on maternity leave.

"It's been very hard to organise things this year when it's all so unknown," she said.

After few meetings early in the year it was planned to hold a June gathering. But that ended up being delayed until July and then held at SPS's offices with young growers turning up to hear the guest speaker, a representative of the ANZ Bank.

The planned August meeting, which was to feature local greenhouse technology manufacturer FTEK, had to be cancelled at short notice as Level 3 restrictions were once again put in place. And by mid-month any plans for meetings later in the year were very much on hold with the possibility that Facebook and Instagram might need to be used to keep the group's members in touch with each other.

“
It's been very hard to organise things this year when it's all so unknown

As a product development agronomist with SPS, Sarah said she often comes in contact with group members while she is setting up trials, so that personal, one-on-one contact might need to be relied on to a greater extent as well. ●



ADAPTABILITY IN THE FACE OF UNCERTAINTY

Words by Heather Woods



30 years of experience puts Lincoln and Lance Roper ahead of the pack

Roper & Son is a Selwyn-based family business that started back in 1991. They've grown from a single site in Halswell to over 200ha around Lincoln with red onions making up the bulk of their produce. They also grow pumpkin, squash and beetroot, all of which are supplied into Foodstuffs (South Island), plus peas and beans specifically for Wattie's. And although 2020 has been a challenging year so far, they're focused on the recovery from Covid-19 and ensuring their business is future-proofed.

Fighting uncertainty with adaptability

Lockdown orders kept the team busy processing huge orders they could barely keep up with, "gangbusters" in their words. Months later, they're staring down the barrel of a new normal - which isn't playing nice.

With the tourist trade out of action, the ski season barely operational, and airport thoroughfare down, their onions just aren't needed in the plentiful restaurants and cafés. There's also a surplus of local product as New Zealand exporters face their own challenges of getting produce out of the country and have no choice but to sell it locally,

causing value across the board to drop. So for Roper and Son, it's become a case of 'survival of the fittest'.

As veterans of almost 30 years, a few tricks help them be nimble and successful. Adapting quickly to change and relying on their strong supplier relationships has been crucial; their experience will get them through. Going hard and fast on eradicating Covid-19 was tough, but Roper & Son feel that New Zealand will come out as a better country - and that we'll be living like this for some time to come.

“**For Roper and Son, it's become a case of 'survival of the fittest'**

Maximising tech for future gains

Along with crop produce for commercial sale, they have a food processing plant to supply hospitals and rest homes with produce such as cut and peeled pumpkin. There's a long list of 'checks' that ensure those crops and produce are of high quality and compliant. Things like soil preparation (for the environment, and their plants), leaf tests for nutrient levels, and the creation and maintenance of buffer strips for minimal impact on waterways.



Roper & Son sell 850 tonnes of red onions annually

Precision technology has become the best friend of these Canterbury growers. Soil probes and GPS (global positioning system technology), with benefits like increased accuracy or "dead straight crop lines", seem to be quite the talking point. They're also considering operational changes like the installation of solar panels to reduce their carbon footprint and be more environmentally friendly. They have intelligent processes in place to ensure efficiencies for growing high quality produce, and for using their land sustainably - like the way they spray fertilisers, or how they monitor water usage with a handy app. They're also kept on their toes by locals who question their methods, so they're not short on accountability.

The team take care of paddock work, the packhouse and food processing, with little room for marketing and proactive community public relations. What they desperately want is an industry body that works to educate locals. Mostly to demonstrate that they're looking ahead, monitoring the land, and doing everything they can to protect the environment - they're doing their bit. And smartly, they have a succession plan in place. They've dotted their i's and crossed their t's, but they understand it's a moving plan that will likely shift alongside technology and industry advancements. Which takes you back to the notion of adaptability - and they're nailing it.



They also grow pumpkin, squash and beetroot, all of which are supplied into Foodstuffs (South Island), plus peas and beans specifically for Wattie's



Policy and government impact on growers

When asked how local policies and government changes might affect them, Lincoln and Lance Roper both take a minute to consider their response. Overseer modelling is on their radar, along with the worry of increasing water rates. They work closely with the Department of Conservation and Environment Canterbury to avoid wastage and unnecessary run-off, including hundreds of meters of native plantings, tapering drains, and putting in grass buffers. But increasing the cost of water would be incredibly damaging.

“**Precision technology has become the best friend of these Canterbury growers**

There's also a lot of talk around minimum and living wages. Being branded as something like 'living wage accredited' seemed appealing, especially when it impacts social responsibility. But fresh produce isn't priced on a flat rate, it's a dynamic scale based on a simple supply and demand structure. Add in the cost of freight, a saturated market, prices and volumes at low levels and well, they have to put their finger in the air and hope that the wages they set, whether minimum wage or living wage, are above the end price they earn.

And encroaching residential developments mean the first house will be a mere twenty metres from their boundary - soon. In terms of sustainability, that's a big concern, and depending on how the future pans out, shifting their business to another site could end up a better option, with less residential interference and a blank canvas to start over with everything carbon-zero. ●



PATHWAYS INTO PRIMARY INDUSTRIES



Words by Eve Williams, Senior Lead - Marketing : Primary ITO

Leading up to March 2020 New Zealand was experiencing consistently low unemployment.

The thriving primary sector experienced consistent labour gaps, leading employers to look overseas, with approximately 15-20% of primary industry roles being filled by immigrant workers. The Covid-19 pandemic has led to rapid change of the overall New Zealand employment market, with a significant increase in job seekers.

The primary sector is still a powerhouse continuing to produce essential products for markets worldwide. But closed borders have led to challenges in providing the primary sectors with their usual seasonal influx of immigrant workers. Even with rising unemployment across many regions there are large numbers of vacancies in the primary sector.

As at 2 July 2020 there are 174 current horticulture vacancies on Trade Me, with many of these advertisements citing multiple positions. Many of the regions that have experienced the highest increase in jobseekers over the last few months are primary sector strongholds. To support efficiencies in our economy and overcome the challenges of



The primary sector familiarisation diagram demonstrates the steps by which to engage a new employee into the primary sector

our closed border, connections are needed to make positive transitions of our current jobseekers to the current vacancies and long-term career opportunities in the primary sector.

PIPI - Pathways into Primary Industries is a project that Primary ITO has drafted to consult with growers and seek funding from government, that provides an opportunity to bring people into the sector and provide them with a choice of pathways to dynamic and rewarding careers.

With PIPI, we can use our unique position to support the wider primary sector to work together and ensure the right people are employed in the right roles with right skills.

Primary ITO is unique. As the sole industry training organisation mandated to work across the pan primary sector, we have over 100 frontline staff throughout Aotearoa working with employers and their teams. We can connect and partner with the wider primary sector to ensure that as a country we support people into employment and keep them there.

We know that at every level, horticulture depends on knowledgeable, innovative, skilled people - and we're here to help you find them.

Our core purpose is to work with businesses in the primary industries to grow the capability of their people. We do this through applied learning. Training and assessment are designed to take place in the workplace, which enables your employees to learn on the job, while gaining real-world industry experience.

Primary ITO is part of the Skills Establishment Group (SEG) who have been instrumental in the development of the Food and Fibre Skills Action Plan

(SAP) for the primary industries. Primary ITO continues to engage with learners, the regional workforce, Covid-19 response groups, including working with Te Rautaki Whakarōpū Māori, a collective of Māori ITO representatives who combine resources and expertise to work as one for Māori communities. We will take advantage of our national reach, supported by a sector specific regional structure, to bridge all these strands of activity. Our national network means we can support our primary industries to thrive and grow. We work closely alongside government, industry organisations, iwi and businesses to provide a pipeline of opportunity within the primary sector.

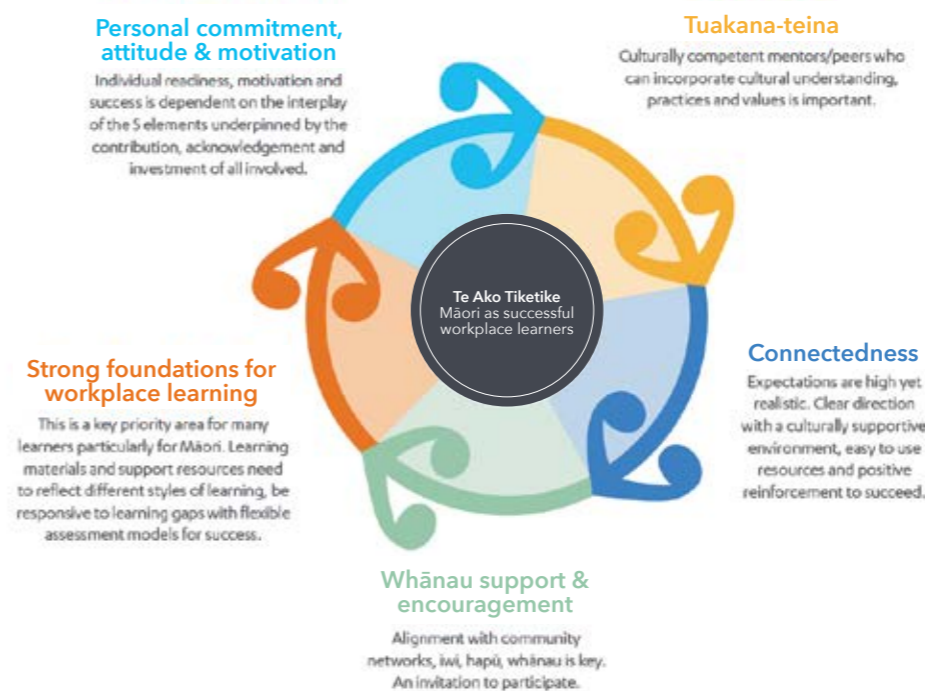
A bridge to employment

PIPI is a pathway from outside to inside the primary Industries that will mobilise skills, knowledge and expertise as part of a coordinated approach by sector and region to develop and deliver a national pan-sector pre-employment strategy. PIPI is a bridge to employment that captures people throughout their journey and is appropriate for school leavers, career changers, and can even pick up those who have already completed a pre-employment course elsewhere. The strategy aims to use Primary ITO's existing funding mechanisms and new funding streams to create a complete and sustainable strategy for employment in our industries. The strategy incorporates several touch points and workstreams.

There are seven key projects within PIPI:

- 1 Primary sector familiarisation**
 - We need to gain the interest of potential employees and get them on the pathway towards finding their passion and turning it into their profession in the primary industries.

A Model For Successful Māori Learners in Workplace Settings



Te Ako Tiketike is an evidence-based theory model identifying outcomes for learners, as well as the mechanisms, systems and structures required to implement the model

- The focus at this stage is on how the learner can contribute to sustainable food and fibre production, and thriving communities.
 - This exposure will help to close the urban divide in creating connectivity between urban and rural communities.
- 2 Short critical skills courses**
 - Critical skills need focused courses that are available online and can be linked to the network of formal qualifications (the Qualifications Framework).
 - Our pan-sector approach means people will be able to access different roles in different sectors at different times of year.
 - Reduces the employment burden on individual employers and enables individuals to reside in one location.
 - 3 The Primary Industries Passport and Badging System**
 - Based off learning outcomes in the existing Qualifications Framework developed by Primary ITO in consultation with industry. These may form the basis for assessable credentials and a way of recording them to support jobseekers gaining employment.
 - 4 New entrant trainee experience**
 - Leads to formal training connecting to existing funding mechanisms.
 - Improves employability of jobseekers.
 - Reduces the friction of people transitioning into Primary Industries by supporting new entrants with pastoral care and skills development.
 - Enables people with a demonstrated interest to be connected with employers.
 - Uses Primary ITO's existing national training advisor network that will complement Ministry of Social Development's job seeker programme.
 - 5 Employer experience and employment obligations**
 - Will provide employers and their team with access to support and training that will build their resilience, make them better employers, and contribute to the economic welfare of their business.
 - 6 Good news stories**
 - Captures and profiles those who have transitioned and follows them on their journey, ultimately attracting further people into the Primary Industries.
 - Link in closely to the Ministry for Primary Industries and Tertiary Education Commission vocational marketing campaigns.
 - 7 Lifelong learning and employment**
 - Links employers and trainees into existing training funding models for vocational training that supports progression of their career pathway.

The Pathways Into Primary Industries (PIPI) Proposal has been developed by Primary ITO as a first draft. As the production horticulture industry, you play a critical role in the shape and function of PIPI. If you would like a copy of the full consultation document, please get in touch with Adam Fleck on Adam.Fleck@primaryito.ac.nz. We'd love the opportunity to discuss this with you further. We look forward to hearing from you. ●



PUKEKOHE APPEALS ON PC1

Words by Glenys Christian

The Pukekohe Vegetables Growers Association (PVGA) is lodging a separate appeal to the Plan Change One (PC1) land use changes proposed by Waikato Regional Council.

PVGA president, Kylie Faulkner, said they had been working very closely with Horticulture New Zealand throughout the appeal process.

"However we felt it was very important that PVGA represent the growers in our area directly and also lodge an appeal," she said.

"We have worked hard to ensure key points such as the importance of being able to rotate crops and the ability to be able to provide fresh and healthy vegetables have been covered."

PVGA life member, Garth Wilcox, represented Horticulture New Zealand and vegetable growers on the Collaborative Stakeholder Group (CSG) drawn together by the council to formulate its Healthy Rivers Wai Ora plan. And at the start of 2017 the PVGA made its own submission on PC1 which was proposed by the council after it had voted by a narrow margin to accept the group's recommendations. As well as supporting Horticulture New Zealand's submission on the initial plan it held grower workshops on its content and encouraged individual grower members to make their own submissions if they wanted to. Most growers' concern continues to centre around possible future restrictions on land change use which could affect their ability to keep growing vegetables. ●

SCHOLARSHIP SET TO GO

Words by Glenys Christian

The Pukekohe Vegetable Growers Association (PVGA) Education Scholarship will be available for the 2021 year for the first time.

The scholarship, established to commemorate the PVGA's centenary in 2018, will support successful recipients with up to \$5,000 towards study, research or further training.

They will be decided by a scholarship committee made up of president, Kylie Faulkner, and two former presidents, Keith Vallabh and Grant Ryan. Not all of the \$5,000 will need to be awarded in any one year.

“**Developing people is the key to the future of the industry**”

At the centenary dinner in September 2018, Grant Ryan revealed how the association had decided to give back to the industry by setting up the education trust. Developing people is the key to the future of the industry, and the involvement of the next generation is critical to sustain all growers' businesses, he said.

Funding was kickstarted by the auctioning of a painting by Pukekohe artist Logan Moffat, with the winning bid matched by the PVGA.

The recent annual meeting of the association approved the election of the committee members, the establishment of the PVGA Education Trust to fund the scholarship, and scholarship rules. ●

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2020 HortNZ AGM – Notices of Motion

The following motions will be considered at the Horticulture New Zealand Annual General Meeting (AGM) being held at the Pukekohe Indian Centre, Pukekohe, Auckland on **Friday 25 September 2020 at 12.30pm** and by Zoom for members unable to get to Pukekohe.

→ Motion 1

That the minutes of the 14th AGM of Horticulture New Zealand (HortNZ), held on 1 August 2019 at Mystery Creek be taken as read and confirmed as a true and correct record of that meeting.

Proposed by the HortNZ Board

Explanatory Note

A PDF of the Minutes of the 2019 AGM is available at www.hortnz.co.nz. If you have any questions or would like hard copies, please email board.secretary@hortnz.co.nz

→ Motion 2

That the President's and CEO's Report for the financial year ending 31 March 2020, as published in the Annual Report, be taken as read and adopted.

Proposed by the HortNZ Board

Explanatory Note

A PDF of the Annual Report will be available at www.hortnz.co.nz. If you have any questions or would like hard copies, please email board.secretary@hortnz.co.nz

→ Motion 3

That the audited financial statements for the year ended 31 March 2020 be adopted.

Proposed by the HortNZ Board

Explanatory Note

A PDF of the Annual Report and Financial Statements will be available at www.hortnz.co.nz. If you have any questions or would like hard copies, please email board.secretary@hortnz.co.nz

→ Motion 4

That the 2021 year levy rate for the purposes of the Commodity Levies (Vegetables and Fruit) Order 2019 remain and be set for domestic sales at 0.14% of the price received at the first point of sale, for export sales remain and be set at 0.14%

of the price received after the deduction of all offshore costs and for processed sales remain and be set at 0.14% of the notional process value.

Proposed by the HortNZ Board

Explanatory Note

The Commodity Levies (Vegetables and Fruit) Order 2019 allows a maximum rate to be set for vegetables and fruit at 0.15% for domestic sales and processed sales taken at the first point of sale and at 0.15% for export sales at the first point of sale after all offshore costs (including international freight) have been deducted. For processed vegetables and fruit the levy is deducted from the notional process value, which is defined in the Order. At the AGM levy paying growers may set any rate up to the maximum for the next calendar year. The current rate for vegetables and fruit is 0.14%. This levy funds the activities of HortNZ. The Board recommends that the levy rate be set and remain at 0.14% for the 2021 year to meet the commitments identified in HortNZ's Budget.

That there be no change to the directors' remuneration for the 2020/2021 year.

Explanatory Note

The HortNZ Directors requested a 20% reduction to their fees for six months from 1 July 2020 to December 2020. The Directors also requested their remuneration be held at the current rate for this financial year. Therefore, no change to the directors' remuneration is being proposed and there is no motion.

→ Motion 5

That the Budget for the year ended 31 March 2021 be endorsed.

Proposed by the HortNZ Board

Explanatory Note

A copy of the Budget for the year ended 31 March 2021 is available at www.hortnz.co.nz. If you have any questions or would like hard copies, please email board.secretary@hortnz.co.nz

→ Motion 6

That BDO, Wellington, be appointed auditors for the year ended 31 March 2021.

Proposed by the HortNZ Board



RESILIENCE AND DIVERSITY THROUGH HORTICULTURE

Words by Glenys Christian



Matt Punter and Lana Kennett, the Kaipara Kai Hub staff based in Ruawai

Kaipara landowners are increasingly interested in improving their resilience by diversifying their income streams venturing into horticultural production. And Matt Hunter, manager of the Kaipara Kai Hub, is just the person to assist them in making sure the research carried out as part of the Kaipara Kickstart Programme is put to the best use.

He took up the position late last year after working for Plant & Food Research in Auckland and Hawke's Bay in the molecular biology and post-harvest technology areas. He says there's a strong desire from the community to get into horticulture.

"People are looking to diversify so they have several income streams. Some want to be hands-on and some would like a management agreement. They're looking at how resilient they are in a constantly changing environment, such as farmers sending all their beef into the North American market."

And his facilitation of this interest has seen the use of social media, webinars, field days, events and a lot of personal connection through targeting specific growers and encouraging early adopters.

While the Kaipara's elite soils can grow most vegetable crops, the biggest risk is that they won't be able to be sold at a profit if they arrive on the market when there's an abundance from other regions.

"There's the potential to generate good income if they can time their harvest right," he said.

An example is sweetcorn where he says that a \$60,000 per hectare gross return is possible if the crop is ready for market before Christmas. But if not, that drops to a break-even position of from \$15,000 to \$20,000 per hectare.

"That's the risk in the market space which we can put in front of prospective growers."

“People are looking to diversify so they have several income streams”

Weather and environmental risks include soil temperatures not being high enough for sowing seed until later than hoped for, as well as insect attack and lack of bacterial control. While the Kaipara is logistically challenged when it comes to getting crops to market, Matt says that's a small cost compared with getting timing wrong.

Some beef farmers have expressed an interest in growing kumara on some of their land, but not being

horticulturalists, lack the resources to help make that decision. So Matt is able to assure them that through his discussions with local kumara packhouses there is an opportunity to supply greater volumes at certain times of the year. As a result, one farmer is putting in up to 10ha this year with an eye to try some riskier crop options where there isn't a pre-existing industry in place.

SWEETCORN POSSIBLE GROSS RETURN

If harvest is ready for market before Christmas

\$60,000
PER HECTARE



If harvest is **not** ready for market before Christmas

\$15,000 - \$20,000
PER HECTARE

(breaking even)

To provide on-the-ground information a peanut growing trial will go in during October on two demonstration sites of 1,000 square metres after Plant & Food Research identified it as a possible option.

"It's all about soil temperature being greater than 18 degrees Centigrade at sowing," he said.

While that's historically at the end of October, levels higher than this had been reached in early August this year.

"But September can be cold and wet which we have to be mindful of."

While the crop has been grown before in the area, yields were found to be not high enough to proceed further. But Matt feels this could be more a crop management problem and points to the fact that in Queensland and the southern American states, peanuts are grown in rotation with sweet potato, a perfect fit for the Kaipara. The crop also has to be dried down after harvest, an area where the process of hardening kumara off could gain an additional purpose.

When it comes to tree crops, Matt says there has been significant interest from the Māori community in growing avocados. One of the kickstart programme's feasibility study findings was that there could be a place for this crop, not currently grown in the Kaipara District Council's area but with large plantings to the north at Awanui, east around Maungatapere and south at Taporā. He's now looking at establishing a local demonstration site.

"When people can come, see and physically touch a new crop there's a lot more chance of them taking it on," he said.

"I can steer them in the right direction."

This can range from directing interested growers to a particular website or taking them to a nursery able to sell them avocado seedlings. And with water supply being key, he can explain some of the due diligence which might be required to make sure there is suitable provision, particularly in the wake of the area's drought this year.

There have also been good discussions about re-establishing pipfruit production, built on what the Tinopai Fruit Company was able to achieve north of Wellsford before the Depression came along in the 1930s. Nashi and other pears might be able to be grown for domestic consumption along with persimmons and citrus.

Since getting involved he says there have been over 300 individual interactions spread across growers, farmers, lifestyle farmers and those involved in aquaculture.

"Everyone has been very positive," he said.

"There have been some early adopters who have utilised the resource and gone ahead and done it."

A big advantage, he believes, is that the hub is seen as neutral.

"We're not peddling something, we're certainly not consultants," he said.

"We're just getting the discussion started by sowing the seed and giving them the whole picture." ●

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KICK START TO KAI DIVERSIFY

Words by Glenys Christian



Dr Jason Smith, left, at one of the recent Kaipara Kai Hub field days with deputy mayor, Ana Curnow, Kaipara Kai Project manager Di Miller and Kaipara Kai Hub manager, Matt Punter

Kaipara District Council mayor, Dr Jason Smith, is a fifth generation local from Ruawai. And as the former chief executive of the Kaipara Development Agency and the only mayor in the country with a doctorate in economic development, he knows more than many people of the advantages and considerable disadvantages the area has.

"This part of New Zealand grows food," he said.

"The local economy doesn't do tourism."

But growth and diversification have been hampered in the past by the area's geography with pockets of good growing land often at the fingertips of peninsulas.

"And we're poorly serviced by transport."

Its "awful" roads and aging wharves are the only links to the rest of the country, especially the rapidly growing Auckland consumer market. But while the southern end of the Pouto Peninsula is the closest part of the Kaipara region to Auckland's Sky Tower, the road trip can take up to five hours.

So he initiated the Kaipara Kickstart programme, now funded by the Provincial Growth Fund in its first year, with the aim of improved roading and wharves inter-relating with the Kaipara Kai Project.

"The principle is to do better what we already do rather than helicoptering in something else," he says.

For example, the sandy soils at the end of the Pouto Peninsula could be ideal for growing employment dense crops such as saffron, which might in the future be able to be shipped across the Kaipara Harbour to reach Auckland Airport rapidly then sent overseas.

And on the eastern coast around Mangawhai, the fastest growing town in the North Island, there are also pockets of good soil, identified in the council's spatial planning, which could be used for growing such crops as lavender or lemons.

A wealth of research has been carried out including a topoclimate study into current and future crop suitability, as well as Plant & Food Research looking at different kinds of horticulture and Landcare NZ soils and soil data. The Kaipara Kai Hub was set up to support use of this information, with Coriolis Research estimating that if Kaipara could match the performance of other districts this could add \$200 to \$230 million directly into the regional gross domestic product (GDP).

Dr Smith makes the point that the Kaipara delta area between Ruawai and Dargaville has the largest area of good growing soils north of Auckland.

"We're second to Pukekohe and that's land being covered in houses," he says. "The community here is used to growing food. Everyone gets it."

But what was lacking was the research, which is now being rolled out to that community.

"Before this they didn't know what they missing out on," he said. "The opportunity was staring them in the face."

The area also has a different workforce profile to much of the rest of the country, with the 1,500 20 to 30-year-olds making up just a small portion of the population, as many leave to seek work.

"We can open up opportunities so they don't leave," he said.

And with the arrival of Covid-19 he said there is a much greater appreciation of connections with the land and staying close to home.

“The local economy doesn't do tourism

Through the Kaipara Kai Hub locals can learn more about new crop possibilities such as peanuts, and from those initiatives new industries, processing factories and jobs could become available.

"In the short term it's baby steps, but it will be transformational in 20 years' time," he says.

"We've got kumara nailed, so what's next?" ●



OUT OF SEASON SALES KEY

Words by Glenys Christian



Wilton Turner believes he's blessed with the rich soils present on his farm on the Pouto Peninsula

Two Kaipara growers who trialled red onion and beetroot crops out of season as part of the Kaipara Kai Project say it's not the growing that's the issue but what happens at the other end.

Wilton Turner owns just 4.8 hectares of land at the end of the Pouto Peninsula reaching out into the Kaipara Harbour. With his business partner Simon Woodcock, who runs bull beef on over 400ha nearby he's grown crops of pumpkin, aiming to sow and harvest early, getting first to the market.

"It's a small microclimate here," he said.

"They're rich soils and we're blessed. But if we all did it the market would be flooded."

With pockets of their land being very good for curcubits they trialled watermelon and rock melon last year with some success. And this year they'll plant two 600 square metre plots of red onion and beetroot.

Simon makes all the sowing decisions and handles crop management while Wilton handles the marketing and drives their crops to Auckland. He's also advising several other local producers of brown onions and kumara.

"We want to expand the business but not make it complicated," he said.

Kaipara Kai Hub's manager Matt Hunter's positive attitude had given them the confidence to keep going and have a crack at different vegetable crops.

"He's been very helpful," he said.

"But it's a tough industry to break into." ●



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PLANT & FOOD RESEARCH, KERIKERI

Words by Wendy Laurenson



From left to right: Dan Black, Robin MacDiarmid and Annette Richardson at Plant & Food Research, Kerikeri

These are busy and changing times at Plant & Food Research, Kerikeri. The 52ha site is now one of Plant & Food Research's biggest research sites and its role, emphasis and orchard continue to evolve in keeping with the organisation's recent refreshed brand and tagline of *Smart Green Future, Together*.

Annette Richardson, a senior scientist who has been at the centre since 1984, says the focus has shifted in that time from local and advisory, to national and global. "Plant & Food Research now has 14 sites in New Zealand, with 1,000 staff, plus three sites in Australia and one in the United States, and we now work across all sites rather than on site-specific projects. I lead the Carbohydrate Physiology team, for example, with colleagues based here, Ruakura and Te Puke."

Climate change and low chill winters

Annette's own work is around vine physiology and hydrogen cyanamide alternatives, with the added impetus now from the pending hydrogen

cyanamide reassessment by the Environmental Protection Authority (EPA). "The issue is under the spotlight with the current land-use conflict of housing development and food production. Also, with climate change, managing low chill kiwifruit is important and timely research, so new kiwifruit low chill cultivars may be a key solution."

Kerikeri site

The original reason for a research site in Kerikeri was that the then new irrigation scheme underpinned a solid future for Kerikeri's horticulture development, so selection and management of new crops were paramount. "Early exploration went from green kiwifruit then to a massive citrus research and breeding programme, then swung back to kiwifruit, particularly after Psa," Annette explains. "While we still hold the national citrus germplasm plus a collection of other subtropical fruit varieties, the site here is now largely focused on a breeding programme of the low chill kiwifruit varieties including new reds."

As well as the Kerikeri site providing the subtropical climate essential for trialling future low chill kiwifruit, the location has great soils, is near Plant & Food Research's Auckland site, and has



Part of the citrus germplasm block at Plant & Food Research, Kerikeri

available land and labour. Annette says, "We have 16 permanent staff here, 10 casuals and often 10 to 20 contractors, and we have a very good orchard. There are some regional challenges with isolation, water, lack of some services, and internet but these factors are all improving as we step into this more sophisticated digital era."

Increase in demand for science

Robin MacDiarmid is a principal scientist at the Kerikeri site and is a key player in a shifting emphasis in Plant & Food Research both at the local and national to global level. "In recent years we've seen a huge increase in demand from industry and from our wider communities for our science. People want to know the science of things like nutrition, sustainability, employment, environment and social development, and we've been shifting our focus to meet that."

Underpinning this, is a change in the organisation's use of government money. "In the past, most government funding was aligned to sector based applied research which inevitably delivers to the status quo, and tends to be short term and narrow in focus," Robin says. "We are in a changing world so we're pulling the focus away from

applied research and back to basic research which is bigger in scope with longer timelines to prepare us for a very different future."

New directions

To that end Plant & Food Research's chief scientist, Professor Richard Newcomb, recently identified three areas of fundamental science to support New Zealand's future food production - urban horticulture, aquaculture and sustainable production systems and supply chains. "The vision is that by 2030 Plant & Food Research will have developed the knowledge and capability to deliver food systems that give back to people and place, restoring and regenerating New Zealand's unique biocultural ecosystems."

And Robin is excited to be leading the Rejuvenating Crop Ecosystems and Provenance aspect of the new sustainability focus, in addition to her existing leadership of the Virus and Like Organisms team. "Some of this project will probably be based in Te Tai Tokerau (Northland) and we'll explore how places of food production interact with our New Zealand ecosystem. We'll also look at the story and origins of some of our introduced food crops."

“ People want to know the science of things like nutrition, sustainability, employment, environment and social development

Covid-19 lockdown

Robin says Covid-19 has focussed and accelerated changes that were already in process for Plant & Food Research. "People want healthy food from sustainable systems and they want to know its story and provenance, so there's a real fit between what we're doing and what Kiwis and consumers globally want." But the sudden

Covid-19 shutdown was devastating for the Kerikeri site in the short term because it came right at the beginning of harvest. "We had to scramble to sort out priorities and because we weren't an essential service, we couldn't harvest our red and gold trial crops on time, so in some cases we lost a year's work," Annette says. "We could only do basic orchard maintenance in Level 4 lockdown, but the subsequent weeks brought opportunities for refining our focus, upskilling staff and improving administration and communication systems."

Orchard management

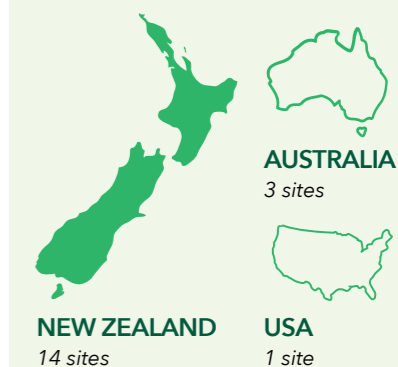
Dan Black is the orchard manager of the Plant & Food Research Kerikeri orchard, and he and his assistant, Gavin Lloyd, kept the orchard plants alive during lockdown. "The priorities were to look after the germplasm blocks, but we couldn't maintain the breeding programme with canopy work or do any development. Longer term, Covid has highlighted the need for quality food, so it has confirmed that we're already doing what people are wanting. We're looking at what grows best in Northland and how to sustainably produce that."

"Everything we do now is focused on upgrading our sustainability, including smarter water and nutrient use, and reducing waste. Our average trial block lasts just three to five years before we start again and replant, so it's vital to us to keep the land healthy. We've also just finished planting out the orchard's newest six hectares in more kiwifruit trials, and trials of low chill raspberries and blueberries."

The Kerikeri research orchard also has some persimmons, avocados, papayas and quite recently, some hops. "Hops suit colder climates, but the small planting up here safeguards the germplasm in case something goes wrong in the industry further south," Dan says.

And things do go wrong with the fruit industry. "Psa was particularly tough on red kiwifruit, so most of our early reds didn't survive and we had to find new plant material to begin again."

Plant & Food Research sites



We plant 10,000 to 20,000 kiwifruit a year to cross pollinate and evaluate in our nationwide breeding programme, and the recently released Zespri Red was a result of those trials."

Dan emphasises the importance of good relationships between Plant & Food Research and local industry and growers. "Several of us here come from the industry, so we know a lot of growers and we make a point of attending field days and events so people know what we're up to."

"Our School Gateways programme is another community outreach and is going really well with the students now developing their own kiwifruit block, and vegetable garden with fruit trees. Covid has rekindled the national interest in growing food, so it's exciting times for our industry. We're keen to continue to up-level every aspect of what we do here and pass that on to grow a better future." ●



Technician Denyse Pope testing kiwifruit in one of the labs



SOCIAL DISTANCING A CHALLENGE FOR HOP INDUSTRY

Words by Anne Hardie



New Zealand Hops chief executive Craig Orr – social distancing is an anathema to beer drinking

Beer consumption around the globe has taken a big hit from social distancing and the New Zealand hop industry is having to adjust the way it sells its crop.

In the United States, taproom breweries in particular that sell most of their beer onsite have been hit hard by Covid-19, with many forced to close and others trying to find other ways to shift their beer. While in the United Kingdom social distancing disrupted the entrenched culture of a beer at the local pub.

Here in New Zealand, the tail end of the hop harvest was hurriedly picked, dried and baled at the end of March as lockdown closed the country down. With forward contracts, New Zealand Hops chief executive Craig Orr says about 80% of the cooperative's 2020 hop harvest has been sold as contracts were honoured. The challenge will be the 2021 harvest. The cooperative

generally deals with five-year contracts which allows for crop planning of the numerous varieties, but Covid-19 has created an uncertain future for the hospitality industry and hence long-term contracts.

"It depends on what happens with Covid. How quickly are we going to be able to restore the markets – no one knows. The hospitality market is probably the worst affected because social distancing is an anathema to beer drinking."

In the United States, some of the taproom breweries that are surviving the pandemic are trying to can their beer in an effort to get more of their product to the market. However, Orr says they have to get in line because everyone else is trying to can their beer as well, and there's also a supply chain problem caused by the pandemic.

About 85% of the cooperative's business is offshore, especially to the United States and United Kingdom, which are two of the hardest hit markets.

"The UK pub culture is phenomenal. That's how they consume beer – in the pubs. You can buy your packaged beer, but their high consumption level is on premise. So we're trying to shift our business around and make sure that we are open for business beyond those core markets."

One of the alternatives is targeting more business from Australia. Though the cooperative has been involved in the Australian market, Orr says it has been largely through the two beer corporates' head offices, rather than head brewers. There is an expectation, he says, that the border will open with Australia or at least specific states, which will hopefully enable face-to-face meetings with brewers. Though the likes of Zoom have taken off since Covid-19 shut down borders and Zoom is a valuable tool, Orr says you still can't beat face-to-face meetings to build relationships with customers.

Because they can't jump on a plane to see existing and prospective customers, the cooperative is now launching

an e-commerce site to deliberately open up trade channels, replacing its online portal for largely local brewer customers.

"We'll do some digital marketing that promotes our e-commerce platform to brewers, so build the awareness around our range of hops. To execute it, we have to have better logistics systems and be able to package and ship out smaller, bespoke quantities."

Another change post Covid-19 is delving deeper into the US market, and then Europe following Brexit. Orr says it will be possible to work directly with some brewers in Europe, but given the distance the cooperative will also need European-based distributors.

“

You still can't beat face-to-face meetings to build relationships with customers

Prior to Covid-19, international trade shows had been a big part of the business development exercise, especially with new varieties which Orr says can be at least 15 years in the making. Nectaron is its latest variety, which was going to be launched to



The 2021 harvest will be the challenge for the hop industry

Orr says the cooperative has about 20 different varieties of hops to sell, with some needing to be culled and replaced with newer varieties.

"The science behind some of the newer varieties coming forward is they yield better and we can achieve better prices."

Another challenge for the New Zealand hop industry is that it now deals with a competitive market at home, with buyers now able to buy from more than one source.

Hop Revolution chief executive officer Jason Judkins says Covid-19 has created an evolving situation, with some customers affected more than others. The longer it goes on, the more difficult it becomes, he says. ●

international brewers at the Craft Brewers Conference in the United States in April before it was cancelled. Instead, local beer fans will get to try it first on a roadshow with brewers in August at pub events.

Nectaron is a high performing variety and New Zealand Hops has ambitions for it to reach the success of its top variety, Nelson Sauvin, or beyond. It is new varieties like Nectaron that will be needed to replace some of the commodity varieties still in the mix that will become even harder to shift in a Covid-19 market, Orr says. The cooperative is signing a new agreement with Plant and Food Research to continue the development of new varieties. Three other new varieties are in advanced trials and will be commercially available in the next four to five years, with more coming onstream in the next decade or so.

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'PERFECT STORM' UPS INTEREST IN NATURAL GROWTH AGENT

Words by Kristine Walsh



Dugald Hamilton

After more than 30 years of research, Dugald Hamilton's plant growth product is ready for market and he puts that down to a perfect storm.

"We were already building up steam before the Covid-19 pandemic but lockdown seemed to give people time to really think about how they wanted the world to look, and for many, that means opting for more natural solutions," says the Gisborne entrepreneur.

"Around the same time we secured a patent in the United States - which opens a lot of doors - and started getting some really important data coming in that shows farmers and growers can leave a smaller footprint but still get amazing results."

Dugald's product, Respond, is a combination of living fungi, bacteria and carbon, the mix tailored to suit specific plants, and 'injected' into the

soil to help plants access the nutrients they need.

He says its development started some 50 years back when, while growing up in Auckland's coastal suburb of Mairangi Bay, his grandmother fostered in him a love of growing and the land.

Fast forward a few years and the dedicated young wave-rider shifted to the surfing city of Gisborne where, once he dragged himself out of the water, he worked on a vineyard that was making the shift from traditional growing to organic and biodynamic practices.

And it was because of that job that, more than 30 years ago, he ended up sitting in a near-empty lecture room at a wine conference in Blenheim.

"I remember it being very late on the second day and most people had left so there were only three of us in the room listening to a woman from the University of California talking about the role micro-fungi played in the soil," he says.

"That completely altered the way I looked at plant reaction to management input, but of course everything we did had to be viable in a commercial context."

Clearly, the idea of adding bacteria, fungi and even yeasts to the soil is not new - it has been researched since the late 1800s - and Dugald Hamilton says its time as a modern growth agent has come.

“What goes into the soil is what goes into our mouths, and the mouths of our children

He believes growers can reap multiple benefits from keeping the cost of artificial additives down and helping keep nasties out of the food chain... and he has one particular 'nasty' in mind.

In terms of healthy growth, nitrogen is the fuel that makes plants go. It is the nutrient most often applied artificially, and that gets right up Dugald's nose.

While synthetic nitrogens certainly boost plant growth, they are mobile in the soil and can rapidly wash or leach into groundwater posing potential harm to human health.

"What goes into the soil is what goes into our mouths, and the mouths of our children," he says. "It just amazes me how the journey towards improving that has been so slow."

He's not the only one with concerns: according to researchers at Victoria University of Wellington, New Zealand's current acceptable level for nitrate in drinking water is too low, based on the danger of 'blue baby syndrome' (infant methemoglobinemia due to reduced haemoglobin in the blood) rather than considering links to colorectal cancer.

And that matters because over the last three decades the amount of nitrate fertiliser added to New Zealand soils has increased by almost 250% (to nearly 430 million kilograms a year), with a corresponding loss of close to 200 million kilograms a year leaked into waterways and aquifers.

Meanwhile, evidence of the efficacy of products like Respond is growing and over the years Dugald has conducted field trials across products from natives, pine and pasture to hops, kiwifruit, tomatoes and macadamia trees.

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MILLION KGS
OF NITRATE
FERTILISER IS
ADDED TO
NEW ZEALAND
SOILS EACH
YEAR**

**200~
MILLION KGS
OF NITRATE
FERTILISER
LEAKS INTO
WATERWAYS
AND AQUIFERS
EACH YEAR**

"It's like giving the plants a symbiotic friend: say you have a million tomato seedlings you want to move from a warm hothouse out into the big wide world, you need to provide a buddy system," he says.

"It's only now that the data is really starting to come in and that's why it feels like it's all happening in a rush, even though this has practically been my life's work. We knew it worked, we know how it worked, we just had to prove it."

“He wants to see farmers and growers enjoy faster harvest cycles, higher production weights, and better quality product while having a lighter environmental impact

He wants to see farmers and growers enjoy faster harvest cycles, higher production weights, and better quality product while having a lighter environmental impact.

"Those working the land in New Zealand do get a bad rap, but we don't have to stop farming or growing, we just have to do things a bit differently. The elimination of chemical fertilisers and the repowering of the soil is a huge step towards that."

He sees the ground we walk on as being a rooftop to another dimension, with billions of times more life below ground than above it.

"The trick has been to design a product that helps the grower communicate with at least some of the life forms beneath their feet to get the best out of the soil in a way that is better for the land, and therefore better for generations to come." ●



After a winter of heavy grazing and selective harvesting, a Respond-treated cover crop at a Whatatutu farm continues to show extremely vigorous growth.



After treatment with Dugald Hamilton's combination of fungi and bacteria, an experimental cover crop showed extremely rapid growth and recovery, along with a high presence of organisms in the soil and deep root systems to draw every last drop of water available.



Despite heavy grazing from cattle over winter, plus regular harvesting from a local food company, Dugald Hamilton says a Respond-treated cover crop at a Whatatutu farm - including buckweat, vetch, rape, crimson clover, radish and chard - quickly bounced back.



TAKING A CLOSER LOOK AT TRACEABILITY

Words by Glenys Christian

Reliable, robust traceability systems are no longer an optional extra in the produce industry, but a baseline requirement of increasing importance.

So since September 2018 United Fresh has been working on and managing a Ministry for Primary Industries (MPI) Sustainable Farming Fund (SFF) project on effective fresh produce traceability systems, and has recently released of a set of draft traceability guidelines as an industry consultation document. Comments need to be received by October 15.

Ineffective or non-existent traceability systems present challenges for growers, packers, marketers, retailers and ultimately consumers, as was shown in the 2013 Fonterra whey protein scare. And with the incidence rate of foodborne illnesses attributed to fresh produce rising worldwide, there's an increased need for there to be effective and robust traceability systems. With the New Zealand produce industry worth over \$6 billion annually, traceability systems need to match a global reputation for quality.

\$6 billion

THE NEW ZEALAND PRODUCE INDUSTRY IS WORTH OVER \$6 BILLION ANNUALLY

At the moment traceability in the New Zealand domestic produce supply chain is not working to a common standard.

Anne-Marie Arts, United Fresh project director, said much of their focus has been on how tracking can be shared between each step of the supply chain and across all categories.

"We know that traceability in the New Zealand domestic produce supply chain is not working to a common standard, since each supply chain varies in its management of internal and external traceability, with external traceability working well in some cases, or not at all in others," she said.

"Sophisticated shoppers as well as national food safety guidelines are providing strong impetus for the fresh produce industry to refine its systems."

Internal traceability covers the methods, procedures and elements needed for tracking and recording data within a company's processes. And external traceability refers



to robust methods put in place to share data between companies making up the supply chain, which relies on cooperation between supply partners. At the same time, everyone in the supply chain is keen to keep costs under control to maintain a competitive position and to make sure consumption isn't affected by perceptions about produce pricing. So the goal in any system is to avoid labour intensive processes, relying instead on modern technology solutions where data transmission requires a common data standard.

The produce industry needs to take full responsibility for its own traceability practices. United Fresh noted that while the draft guidelines are usually non-prescriptive, they would not have been developed if there wasn't a need to do so.

The chair of the United Fresh technical advisory group, Dr Hans Maurer, says the guidelines are intended as an opportunity for the produce industry to adopt its own traceability practices, a preferable option to an externally developed system created without industry input.

Technological advancements could be used to enable data-sharing right across the produce industry, which would add value without significant costs to consumer or grower.

"International markets are an important element of the industry's strategic marketing effort," he said.

"We need to demonstrate a high level of competence in food safety traceability efforts within our export supply chains as well as our domestic supply chain networks."

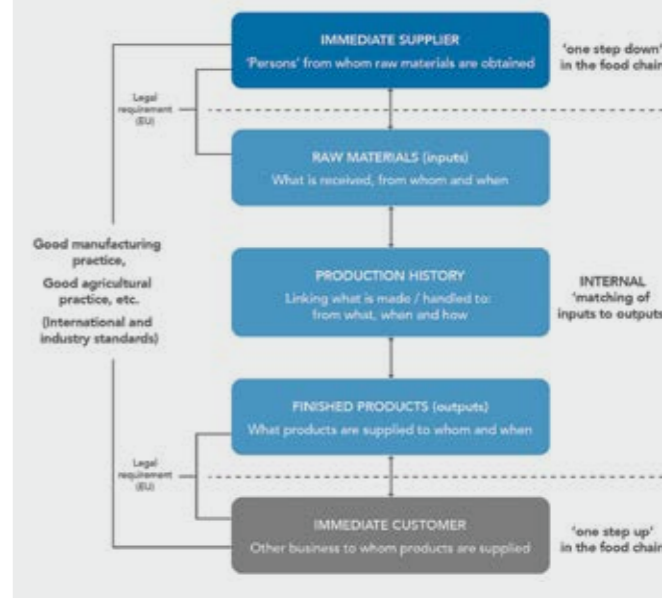
A robust traceability system relies on interoperability, allowing one system to work with, or use parts or equipment from another system. The traceability project has already confirmed that growers collect a substantial amount of data to support their business operations and has demonstrated this is available during production and post-harvest processes. This data needs to be passed along the supply chain with the product it relates to and be visible or readable at all points where it has relevance.

Traceability doesn't work without an underpinning standard allowing all supply chain participants to recognise and move electronic data along with the product itself. Because domestic and export produce systems are intertwined, this standard cannot be developed on a national basis but has to be able to function globally. So the traceability project has worked with the Global Standards Organisation GS1 in developing the guidelines.

“The produce industry needs to take full responsibility for its own traceability practices

Growers, packers, wholesalers, marketers and retailers across the country are being asked to comment on the draft guidelines and offer feedback on how they can be further improved before the final version is published next year. The guidelines are available from the United Fresh website under the following link: <https://www.unitedfresh.co.nz/technical-advisory-group/sff>.

The Traceability Principle



Above: an "one-up, one-down" example. Details are available in the Consultation Document (p10).

Responses can also be emailed to info@unitedfresh.co.nz. Growers can call Anne-Marie Arts on 027 279 5550 to discuss the guidelines, or there's an online survey available for them to complete, also on the website.

The feedback process will be followed up with a series of workshops to be held later in the year to further explore the implications of the draft guidelines. ●

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UNDERSTANDING PSYLLID COMMUNICATION

Words by Kye Chung Park, Senior scientist, New Zealand Institute for Plant & Food Research Ltd

Tomato potato psyllids have been enjoying their natural enemy-free life on New Zealand crops since their successful, stealthy invasion before 2006.

While they feast on potatoes, they spread a bacterial germ causing zebra chip disease making potato chips tasteless and ugly. This has to be stopped!

Know your enemies. If we know what psyllids sense and talk about, we can come up with a pretty good idea about how to deal with them. The trouble is that their language is very different from ours, and no Google translator is available yet.

But now they had better watch out. While psyllids still have no idea about what we humans are talking about, we now have a new tool to understand their language. A team of scientists from the New Zealand Institute for Plant & Food Research Ltd (PFR) have been eavesdropping on psyllid conversations using various advanced technologies, thanks to a Ministry of Business, Innovation and Employment (MBIE) programme 'Realising potato export growth.' Although tiny, psyllids can smell and see, and even talk to each other secretly through coded tapping.

“**Psyllids are talkative. They exchange love songs all the time.**”

Believe it or not, psyllids have a very good sense of smell. There is a reason. Psyllids are pretty picky vegetarians. They only eat some specific plants such as potatoes, tomatoes and capsicum. When a mother psyllid is ready to lay eggs, she must lay them on the right food plant for her offspring otherwise the helpless babies won't survive. So just like a trained canine, the mother psyllid sniffs around, inspecting the smells of different plants. The PFR scientists and a visiting Mexican PhD student have now decoded what kind of smells are telling psyllids 'Come! We are here for your babies'. The smells are a mixture of several volatile compounds produced by potato, tomato and capsicum plants. Interestingly, the same kind of smell is also produced by the noxious weed boxthorn, and psyllids seem to like this plant too. With a tiny amount that we can't even detect, the smell seems to send a strong, irresistible signal to the food-searching psyllids.

Psyllids are talkative. They exchange love songs all the time. In potato fields, their songs are usually unnoticed since the sound is very weak, and their songs, called substrate-borne vibrational signals, are only transmitted through plants. It's like beating a long metal pipe at one end and sensing it at the other end. Using a technique called laser vibrometry, the PFR team and a visiting Italian PhD student have figured out how they talk and decoded their conversations. The talking and singing of psyllids isn't very sophisticated. When the team played back pre-recorded or artificially created mimic songs, the psyllids became confused, illustrating how easily their communication could be interrupted.

Psyllids have colour vision and are particularly fond of yellow. That's why yellow sticky card is used to monitor them in the field. However, psyllids appear to have very different colour vision from us. By measuring electrical signals from the psyllid's eye (similar to an electrocardiogram and electroencephalogram), the PFR team discovered that psyllids can't see red but are very sensitive to green and blue as well as yellow. The team even found that psyllids can see ultraviolet light that we can't see.

By understanding what psyllids sense and what they talk about, the PFR team now has some ideas about how to use this new knowledge to manipulate psyllid behaviour and reduce crop damage. Some ways to do this include:

- 1 Using the right combination of attractive signals can lead to new tools to attract and catch psyllids.
- 2 Psyllid food searching may be disrupted by the release of smells that they are looking for.
- 3 The secret love songs of psyllids can be interrupted by artificial songs.

Although there remain more steps to take, we believe that this research can contribute to making New Zealand's potato, tomato and capsicum industry healthier and more sustainable.



The vibration work was chosen for the cover of the May 2020 issue of the open access journal *Insects*.

This research was part of the 'Realising potato export growth' programme funded by the Ministry of Business, Innovation and Employment (C11X1308) and co-funded by Potatoes New Zealand and the Potatoes New Zealand Charitable Trust. ●



MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI





APPEASING THE ENVIRONMENTAL ACTIVISTS



opinion



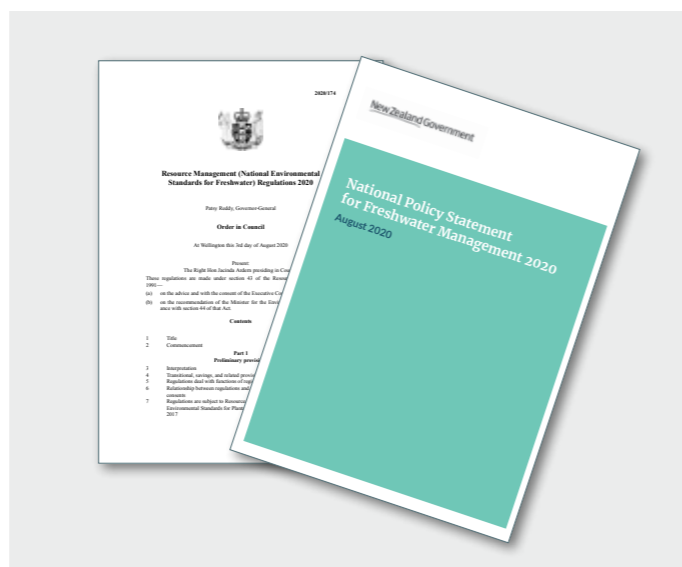
By Robin Boom : CPAg, Member of the Institute of Professional Soil Scientists

In early August the government released its National Policy Statement and National Environmental Standards for Freshwater Management 2020.

This was the culmination of much discussion and debate by lobby groups and industry organisations such as Federated Farmers, Dairy NZ, Horticulture New Zealand and Beef + Lamb NZ representing producers on the one side, and environmental organisations and regional councils on the other. Groups such as Fish & Game, Forest & Bird and Greenpeace have raised public awareness of water pollution, with nitrogen, phosphorus, sediment and E. coli bacteria being the recognised contaminants which need to be reduced. The new standards appear to be not as draconian as many farmers and growers had feared, with synthetic nitrogen limits set at 190 kg/ha for pastoral farmers and no such regulatory nitrogen limits set for vegetable growers or for expanding irrigated horticultural crops. The once proposed bottom line limit for dissolved organic nitrogen (DIN) levels in waterways has been dropped in favour of existing bottom line nitrogen thresholds suitable for sustaining healthy ecosystems.

In recent months Greenpeace has waged a campaign against synthetic nitrogen use, specifically targeting their ire at Ballance Agri-Nutrients and Ravensdown fertiliser companies from whom most farmers and growers purchase their crop and pasture nutrient needs. On 27 July some of their activists blockaded the urea plant at Kapuni owned by Ballance Agri-Nutrients, highlighting the 672% increase in artificial nitrogen use in New Zealand since 1990 which has added to our water and greenhouse gas woes. Instead Greenpeace is advocating regenerative farming practices be used, with little to no chemical use and avoiding synthetic fertilisers. Regenerative farming moves away from monoculture pastures and crops, to multi-species leys and using companion planting and permaculture techniques to grow food.

The term 'regenerative' farming insinuates that the current farming practices used are 'degenerative' and unsustainable, and that soil quality has deteriorated as a result. It is true that with soil disturbance and topsoil loss, some of our intensively farmed and cropped high class soils have deteriorated over time, and this can be seen with



the loss of organic matter in particular. Leaving soil bare or fallowing land after crop harvest will result in carbon loss from microbial activity which reduces soil tilth as well as its moisture and nutrient holding potential. Conversely planting a green manure crop in between commercial crops which can be mixed into the soil will return important organic material and nutrients for future crops. There is also the employment of minimum tillage or strip tillage techniques for some crops which keeps residual plant cover and minimises soil disturbance, reducing continued deterioration. For permanent horticultural crops such as kiwifruit and vineyards, keeping pasture under the vines rather than spraying it out will help retain organic matter and improve water and nutrient cycling rather than have applied nutrients leach out into groundwater or streams.

“ The term 'regenerative' farming insinuates that the current farming practices used are 'degenerative' and unsustainable

For high yielding vegetable and arable crops there is no getting around artificial fertiliser use to feed a hungry world. What is important for both the environment and also for economic reasons, is that excess nutrients are not

applied, and fertiliser inputs are tailored to crop needs based on soil test data, and known replacement quantities based on crop yield. In kiwifruit for example, trials have shown that crop yields are optimised around 100-120 kg of nitrogen per hectare, and doubling this will increase plant nitrogen uptake and leaf nitrogen levels, but there will be no significant increase in crop yield. Applying twice as much nitrogen as is necessary will increase nitrogen losses to the environment significantly, so the 100-120 kg/ha nitrogen is the sweet spot for kiwifruit in terms of both productivity and the environment.

Being aware of public perception and expectations that the food they buy has been grown in an as environmentally friendly way as possible will help take the sting out of environmental activist groups like Greenpeace and Fish & Game. Just because the Ministry for the Environment's National Policy Statement on Fresh Water Management 2020 has given vegetable growers a free pass as far as nitrogen and phosphorus use goes, does not mean that in the future growers could not be restricted with the same limitations as pastoral farmers currently are. Media has recently highlighted complaints by locals and iwi around water quality in the Horowhenua and Pukekohe regions caused by growers.

Using composts, manures and biochar type amendments can also help mitigate nutrient losses and improve overall sustainability



Rather than continuing as normal, embracing more holistic soil management principles such as using cover crops, green manure crops, building and maintaining sediment traps and wetlands will help mitigate water quality degradation. Using composts, manures and biochar type amendments can also help mitigate nutrient losses and improve overall sustainability. There are now effective slow release polymer coated nitrogen fertilisers available which can reduce total nitrogen use and losses without compromising production. Other options such as spraying on foliar nitrogen with humic and fulvic acids that increase utilisation as well as plant hormonal products containing gibberellins and auxins can also be considered. Water and climate activists are not going to go away, so pre-empting their concerns by re-examining past practices and finding less polluting methods of producing food should be on the radar for all farmers and growers alike. ●



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BACK-TO-BACK DRY YEARS FOR MANY AREAS



Words by Georgina Griffiths, MetService Meteorologist

2019 and 2020 - Highs in charge

This isn't news to growers, but New Zealand has seen persistent Highs on the weather map during much of 2019, and again so far in 2020.

The main difference between the two years has been the primary location of the Highs. Last year, the Highs favoured the area west of, and over, the North Island (meaning westerlies for the lower North Island and across the South Island). This year, the Highs have favoured the region over, and to the east of, the North Island.

This subtle change in the High centre has produced some intermittent easterly rain events through winter for Northland and Coromandel, generating a couple of deluge rain events for the upper North Island (but missing the Auckland region, which is currently still on Stage One water restrictions).

These persistent Highs have effectively blocked many of the rain makers from moving across New Zealand.

“ These persistent Highs have effectively blocked many of the rain makers from moving across New Zealand

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Year to date rainfall in selected regions

To put the extended dryness of 2020 into context, let's look at the year-to-date totals at selected rain gauges around the country. This compares the actual rainfall so far this year (as at time of writing on 14 August 2020), compared to the normal tally at this time of year.

Location	Percentage of year-to-date normal
KERIKERI	108%
TE PUKE	75%
NAPIER	56%
BLENHEIM	54%
CHRISTCHURCH	80%
TIMARU	50%

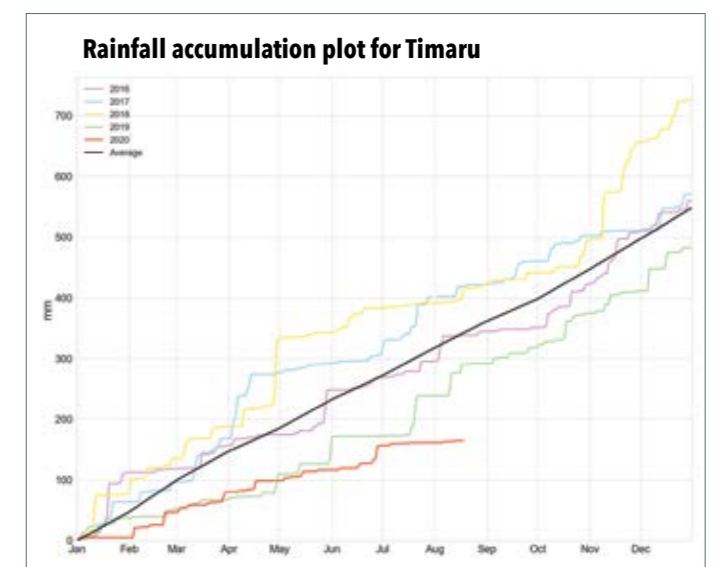
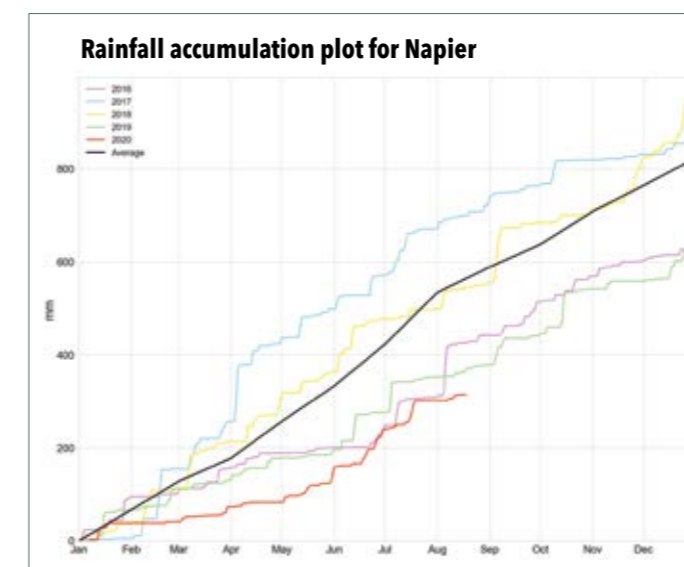
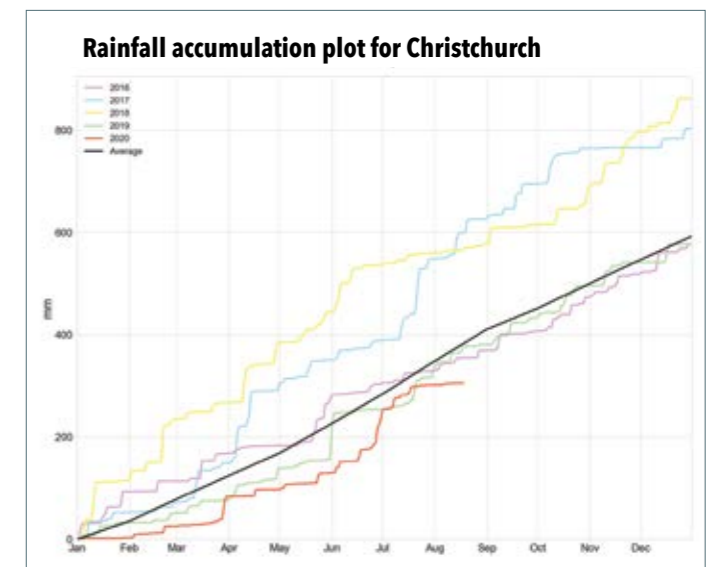
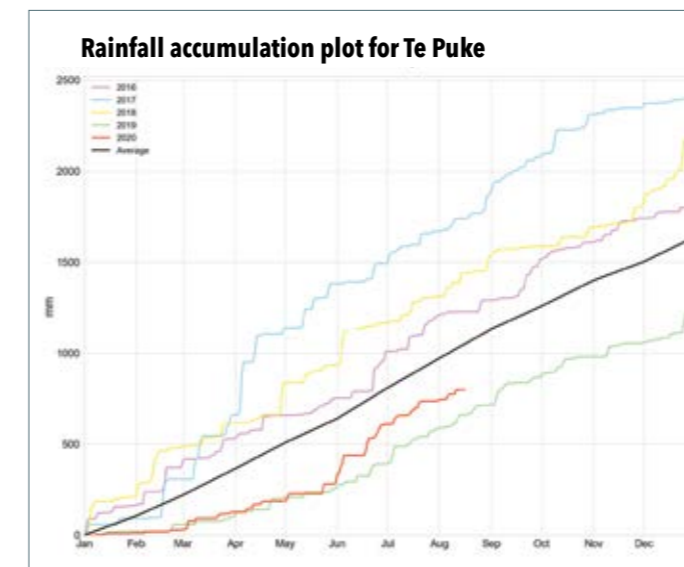
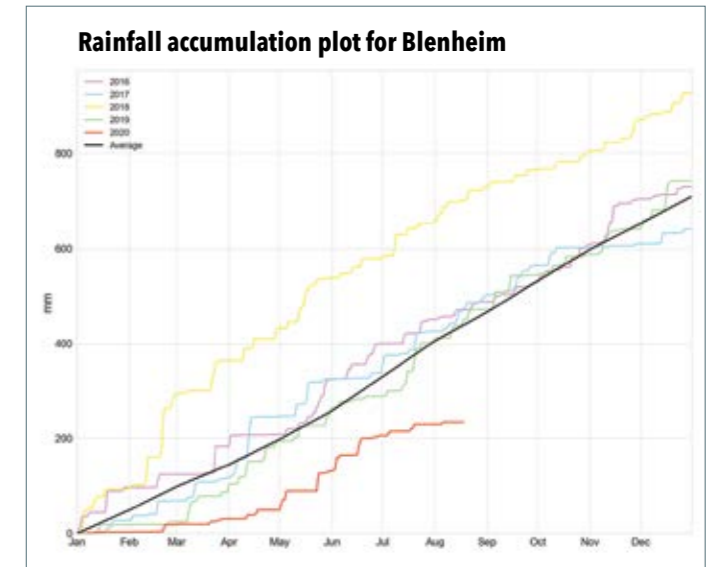
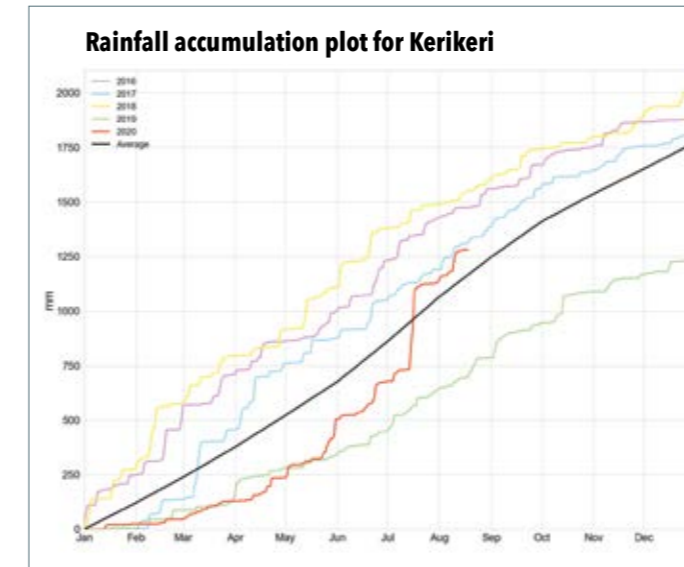
Looking ahead: Spring

There is a reasonable chance (60%) that La Niña develops in the tropical Pacific Ocean during spring. However, even if La Niña forms, any impacts for New Zealand are likely to remain minimal during spring. The most important factors that will influence our spring regime will be:

- whether our persistent Highs hang around versus
- whether the spring westerlies really wind up.

At the current time, MetService is monitoring a very strong signal for continued *higher-than-normal* pressure in the New Zealand region during spring.

What this will likely mean, in practice, is a mixture of both intense and intermittent Highs and some good old-fashioned spring westerlies. **A drier than normal spring** is forecast for many regions of the country. As always, you should keep up to date with the MetService long-range forecast at <http://metservice.com/rural/monthly-outlook>.





THE ORGANIC PRODUCTS BILL



final word



By Mike Nichols

I have only ever made two oral submissions to parliamentary select committees, to the Misuse of Drugs (Medicinal Cannabis) Amendment Bill, and recently to the Organic Products Bill.

It was two distinctly different experiences. In the medicinal cannabis hearing the submission was presented face-to-face to the select committee, who then asked questions. Whereas the select committee presentation on organic products was made by Zoom (due to Covid-19), and certainly in all the presentations I heard, there were very few (if any) questions from the members of the committee.

So what of the Organics Products Bill itself? It is essentially the legal document that will allow New Zealand organic products to be sold worldwide, with some degree of assurance that they have been produced under specified conditions. Few could disagree with this objective. The devil (as I see it), is in the detail. This is encapsulated in the word "Standards" which appears only once in the bill, but requires a whole document from the Ministry for Primary Industries (MPI) to describe how it might operate.

The problem is that there is no international standard for organic products.

I am aware of at least three sets of organic standards – European Union, Canadian, and American. The major difference appears to be in relation to hydroponic production, as the United States now permits organic certification of hydroponic crops, provided the nutrients come from organic sources. The International Federation of Organic Agriculture Movements (IFOAM), is a (self-appointed?) international umbrella organisation for organic farming (established in 1972) and prohibits the use of hydroponics. Thus the water is very muddy.

“

The problem is that there is no international standard for organic products

Also, while it may be possible to restrict the organic certification of certain products in a particular country, there is nothing to stop imported products being sold in that country with a certified organic logo from the importing country which might not have the same certification standards.

It is also abundantly clear that many people do not understand what organics really means. In a survey some 20 years ago it was found that the main purchasers of organic products were affluent upper and middle class homemakers (usually female) who purchased organic products because they are considered to be safer from pesticide residues and so on. In my experience the situation has not changed.

In fact by 2020 GAP (Good Agricultural Practice) has removed many (if not all) of the pesticide risks, and GAP requirements are probably more stringent currently in many respects than organic requirements. For example, concern over personal hygiene, pesticide safety, and the general environment are now important components of GAP.

So is there any real value in establishing a costly organic certification system specifically for New Zealand when there are similar schemes overseas which could be easily imported?

There is little doubt that the Soil Association was ahead of its time in promoting the value of organic manures to retain soil structure, water holding and nutrient conservation, and that the use of synthetic pesticides could provide both an economic advantage and a biological risk. These dangers were demonstrated by Rachel Carson in her 1962 book *Silent Spring* which has led to development of Integrated Pest Management (IPM) systems.

No horticulturist would disagree with the importance of organic matter in the soil, but the real problem for the future will be sustainability. New Zealand is an exporter of food and fibre, all of which results in a loss of minerals (nitrogen, phosphorus and potassium in particular). Nitrogen we can produce locally via legumes or from the air, but phosphorous and potassium must be imported. New Zealand soils are also lacking in certain trace elements, particularly selenium (in the pumice soils), and boron in other soils.

In the long run I suspect that high value horticultural crops will be grown using recirculating hydroponic systems, not only to conserve fresh water and nutrients, but also to reduce pollution in rivers and lakes. ●

PRODUCT GROUPS



ALL THE LATEST NEWS FROM YOUR PRODUCT GROUPS



59 TAMARIXA TRIOZAE FOR TOMATOES



THE FUTURE LOOKS BRIGHTER WHEN WE WORK TOGETHER

Words by Gemma Carroll : Communication & Engagement Office, Potatoes NZ Inc.



Sustainable Vegetables Systems field tour, August 2020

Spring is certainly a time to see new possibilities emerging and amongst all the pandemic response and recovery activity. Potatoes NZ has kept the ball rolling on 12 months of earlier work, developing the Sustainable Vegetables Systems project.

A \$4.7 million dollar injection of funding from the Ministry for Primary Industries (MPI) and partnering with Horticulture New Zealand and vegetable groups Onions New Zealand, Vegetables New Zealand, Processed Vegetables New Zealand and the NZ Buttercup Squash Council under their umbrella of the Vegetable Research and Innovation Board, has meant the future is looking stronger for vegetable growers' social and regulatory licence.

On behalf of the PNZ board, team, project partners, and levy paying growers, we want to take this opportunity to thank all involved for the first 12 months of planning to get

this project to where it is today. We're ready to kickstart a new, smarter era for vegetable growers, which will save businesses time and money whilst providing the tools needed to meet regional regulations.

Government invests \$4.7 million to boost vegetable growers' efforts for freshwater health

Sustainable Vegetable Systems is a four-year, \$7.5 million project focused on reducing the environmental impact of intensive growing of potatoes, onions, brassicas and leafy greens.

It will involve research work to quantify and model nitrogen leaching, and engages vegetable growers from around New Zealand with tools to identify and implement techniques they can use.

The investment from MPI is aligned with the *Productive and Sustainable Land Use* package, which promotes farming and growing practices that deliver more value and improved environmental outcomes.

The *Sustainable Vegetable Systems* project will have nine commercial field sites across the country in Canterbury, Hawke's Bay, Horowhenua, Waikato and Pukekohe as well as trials at Plant & Food Research facilities in Lincoln and Hawke's Bay.

Potatoes NZ chief executive Chris Claridge says this project will give the vegetable growing sector improved tools to estimate nitrogen losses, an area where the sector is currently underserved.

"This project will enable producers to assess which management techniques will best reduce their risk of nitrogen leaching, so they can confidently make changes in practice," Chris Claridge says.

Having robust tools to measure their environmental impact will help growers operate more efficiently, and reduce nitrate leaching. The scientific data gathered within this programme will inform and develop decision tools that can help growers demonstrate sustainable growing practices.

David Hadfield, chair of the Vegetable Research & Innovation Board says that the Board and the vegetable Product Groups it represents strongly advocate for science that supports vegetable growers to build on their current knowledge and improve their monitoring and management of nitrate leaching.

"This work will underpin the ability of vegetable growers to keep producing fresh healthy vegetables using the most sustainable approaches," David Hadfield said.

Ultimately, this will ensure a more prosperous, vibrant and sustainable New Zealand for many generations to come.

And the Spring Potatoes NZ recovery activities don't stop there

Similarly in the PNZ Marketing arena, we continue to operate in a forward-moving, recovery direction, with a three-month multi-channel media campaign kicking off at the end of September 2020. This has come about as a result of the *PNZ Consumer Research Project 2020*, conducted after lockdown and looking at behaviour and attitudes to potato consumption prior to and during lockdown.



We're ready to kickstart a new, smarter era for vegetable growers

The research project used both quantitative and qualitative methods including surveys, interviews and digital 'social studies' to ascertain key insights. The media campaign strategy is informed by these key research insights and focusses on nutritional education and a celebration of New Zealand potato folklore. This campaign is aimed at enhancing the domestic value of potatoes through education and celebration.

Due to the uncertainty for face-to-face events in the Covid-19 world, the digital campaign is a perfect replacement for the usual *November Means New Potatoes* event that we have held annually in Auckland for food writers and influencers. It also has the added advantage of a far greater reach, using digital analytics to target and grow our audience.

Our organisation and industry continue to focus activities on achieving our strategic goals:

- 1 Double the value of fresh and processed New Zealand based exports by 2025.
- 2 Enhance the value of the domestic market by 50% by 2025.
- 3 Zero net nutrient and greenhouse gas emissions from the potato industry by 2050. ●



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HOROWHENUA VEGETABLE GROWERS MAKE A SUSTAINABLE MARK ON THE LANDSCAPE

Words by Antony Heywood, General Manager : Vegetables New Zealand Inc.



Travis Young of BS Young is a fourth generation vegetable grower farming 100ha of land in the Horowhenua catchment.

Travis is a typical generational grower in that he was taught by his father to respect the land and he is instilling the same values in his son, who may want to take over one day. Travis knows that to have something to pass on to his son he needs to create a sustainable business, one which can provide financial resilience as well as meeting the community needs for the environment. He is proud of what his family has achieved in the 80 years they have been farming. The vegetables he grows feeds the community as well as sustaining the dietary health requirements of New Zealanders. His produce is sent throughout the North Island and is available in all major retail outlets.

Part of the transition all farmers face is the changing political landscape. Travis is a doer, he works with his hands and when he faces a problem, he is quick to find a



BS Young cuts the heads off vegetables after harvest to hold the paddock in a covered state before planting the next crop

solution. This is how he has approached the new National Policy Statement (NPS) on freshwater management and the Horizons Plan Change 2 (PC2) for commercial vegetable production. The new standard for freshwater makes it essential for all farms to have a farm environment plan (FEP) by 2025; or sooner if the Regional Council goes through a plan change. This standard has been signalled for a number of years by government, but only recently has it been made into law. Realising vegetable growers needed a pathway to meet the new freshwater standards, Vegetables New Zealand with the Horticulture New Zealand set up workshops in Levin in 2019 to give vegetable growers the resources to gain a FEP. The four workshops were based around the NZGAP (Good Agricultural Practice) Environment Management System, and were attended by over 85% of all vegetable growers in Horowhenua, representing 80% of all the land used to grow vegetables in the district.

“ Covid-19 slowed the process of all Horowhenua growers gaining a farm environment plan. It did not stop them

Travis was a participant at all the workshops. He even brought his son along to half the workshop sessions. The growers participating in the workshops used the checklist and templates of the NZGAP Environment Management System (EMS) to map their farms. The maps defined the natural elements growers need to consider when they grow their crops, features like water run-off, green belts and fertiliser sheds. The growers also went through the templates for erosion and sediment control (phosphorous control) nutrient management, water management and biodiversity management. The outcome from completing



BS Young has kept natural water courses in grass to eliminate sediment run off. This area will be converted into a wetland reserve

the templates is an action plan, which forms the basis for the farm audit. Growers will use the action plan to show progress on their nutrient and water mitigations, following good or best management practice.

Covid-19 slowed the process of all Horowhenua growers gaining a farm environment plan. It did not stop them. Travis is one of the 10 growers who have recently completed the final stage of obtaining a farm environment plan - an EMS audit. This is an independent audit by a certified advisor to give the FEP recognition in meeting Regional Council metrics.

As Travis states, “not until I completed the audit did I realise that we were doing so much of the FEP already. It is good to know our good management practices are now being recognised. I realise we have way to go to get to the perfect plan, but now we can see the areas to work on and are actively including those items in our daily plans to make sure we attain them. The NZGAP EMS is now part of our management system.”

While compliance is another thing to occupy Travis’s day, he realises not all compliance is created equal. By going through the NZGAP EMS, he has embraced the need to continually develop the way he does things. When he was approached by LandWise to do a fertiliser trial looking at slow release fertiliser, he jumped at the chance to be involved. He realises that if he can control the use of fertiliser under the root zone he will have less nitrogen leaching. This will decrease nitrogen run-off into the waterways, and less nitrogen in our waterways will mean cleaner water for the community.

Travis has implemented a number of other mitigations on farm to comply with the FEP action plan. He is limiting the bare fallow ground, thereby limiting sediment run-off to waterways. He has retired part of his farm to cover crops and green belts, especially if they are natural waterways. He is also working with his neighbour to form up a wetland.

In general farm operations Travis is seeking ways of attaining better management practice by incorporating precision agriculture. Tractors are now being configured to run on tracks rather than wheels to mitigate land compaction. Irrigation is through travelling systems, calibrated to apply a soft water spray at the right quantity to remove excess water loss and run-off.

“ Growers have a deep connection to their land. They all want to do the right thing by the land and the people the land supports

One thing that has struck me when writing this is that growers have a deep connection to their land. They all want to do the right thing by the land and the people the land supports. To that end the grower needs support to achieve transformational change, not a compliance body waving a stick. It is so easy to demolish a structure, it takes good architecture and support to keep it standing for decades. Let us all build something to last, starting with a good farm environment plan, a foundation for a sustainable future. Travis Young, along with many other growers, believes this is the way forward. ●



PROCESS VEGETABLES CHANGES, CHALLENGES AND OPPORTUNITIES

Words by Leanne Stewart : General Manager, Process Vegetables New Zealand

In July I was recruited as the new general manager of Process Vegetables New Zealand (PVNZ), following the passing of John Seymour earlier this year.

This is a dual role for me and complements my existing responsibilities at Horticulture New Zealand as the deputy chief executive. I'd like to thank Lynda Banks (PVNZ business coordinator) and David Hadfield (PVNZ chair) who provided management cover during this time to ensure the process vegetables sector continued to be supported.

Current challenges and opportunities

There's been a lot going on for growers so far this year, with adverse weather conditions causing drought or flooding in different parts of the country and of course the significant disruption caused by the Covid-19 pandemic. However, process vegetable growers seem to have been less impacted by Covid-19 due to the supply chain arrangements in place with their contracted processors, that removed much of the uncertainty faced by other sectors trying to find an outlet to sell product at alert Level 3 and 4 of lockdown.

Although we're hopefully through the worst of the Covid-19 pandemic in New Zealand, there still remain other risks the sector faces, which not surprisingly includes biosecurity incursions. Since May we've been notified of three small populations of tomato spider mite (*Tetranychus evansi*) in Auckland, that has triggered a Government Industry Agreement (GIA) response. Under this response we intend to conduct a survey to determine how far the mite has spread so we can decide what to do next.

However, there's also been some good news, in July we had our biosecurity levy order gazetted, which means we have a legal mechanism to pay for GIA responses in the event of a medium to large-scale response.

Looking at more positive news, we're very happy to announce that in July we officially commenced the Sustainable Food and Fibre Futures project *Reducing pea variability in process pea crops*. This project will build on previous research seeking to identify complementary seedlines that reduce variability in time to flowering and pea growth rate for yield consistency and optimisation.

“ Although we're hopefully through the worst of the Covid-19 pandemic in New Zealand, there still remain other risks the sector faces, which not surprisingly includes biosecurity incursions

Through the Vegetable and Research Innovation board we're also part of a Productive and Sustainable Land Use project: *Sustainable Vegetable Systems*. This project supports vegetable growers to improve their monitoring and management of nitrate leaching, enabling them to continue growing using the most sustainable approaches.

As you can see it's an exciting time for the process vegetables sector!

I look forward to working for the sector and please contact me if you have any questions or concerns. My email address is leanne.stewart@hortnz.co.nz.



"We have a wide range of pumpkin varieties for all growers, from super reliable storage Sampson to the tasty thin skinned Orange Summer" Aneil Hari, Technical manager, Enza Zaden New Zealand

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After many years of working via other parties in New Zealand, we are very excited to be able to supply growers direct. We know our seed stock position in real time and can plan your seed requirements well in advance. Together with our pumpkin and onion breeding teams based in Pukekohe, we develop innovative solutions and build long term partnerships that support the success of our growing community. Call us direct to request seed.

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For technical advice on open field crops, contact Aneil Hari on 021 367 242, or Jennifer Sinclair on 021 749 471.

For glasshouse crops, contact Louise Millar on 021 711 709.

For other enquiries, contact Herman van der Gulik, sales manager: on 021 858 939.

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INTRODUCING ENZA ZADEN PUMPKIN AND ZUCCHINI

GREY PUMPKIN:

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NELSON: Bush type, super early harvest, medium 4-6 kg fruit, medium storage

MINARAY: Vine type, 3-5kg fruit, high yields, long storage for individual fruit sale

E30G.00028: New intro, medium fruit size, smooth skin, good taste, long storage for individual fruit sale

BUTTERNUT:

TIANA: Small 1kg blocky type, early with deep orange flesh, ideal for single meal or food box

HAVANA: Very uniform 1.2 kg fruit, concentrated harvest, similar shape to Waltham

RED PUMPKIN:

ORANGE SUMMER: Colourful small and tasty, edible skin, ideal for soup or salads

KABOCHA:

E30K.00154: new intro, with taste, high dry matter, good yield and storage

ZUCCHINI:

DESERT: Easy to harvest, low labour, open bush, dark green fruit

SALVADOR: Reliable performer in wide range of conditions, dark green straight fruit



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WINNERS OF THE WEBER FAMILY Q 3200 PREMIUM GAS BBQS WILL BE DRAWN 15 OCT 2020.



INTERPRETING GLOBAL TRENDS

Words by James Kuperus, Chief Executive : Onions NZ Inc.

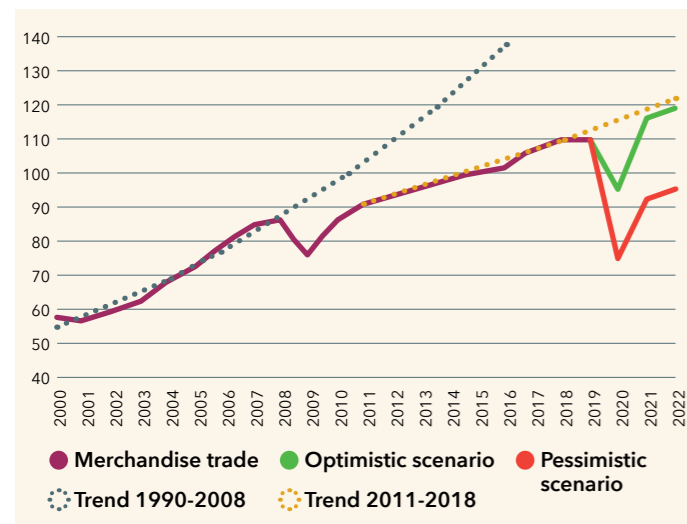
Onions New Zealand completed its winter tour of the major growing regions in July, talking to growers, exporters and the wider industry. We are extremely appreciative for the time everyone took out of their days to meet us and hear what we had to say.

This column reiterates and documents some key points for those who were not able to make it as well as for those who did.

Global trends

1 Impacts of Covid-19 on trade:

The World Trade Organisation is expecting a global retraction in trade by between 13% and 32%. The graph below was presented to members in July. Since this discussion, global figures have tracked along the pessimistic line. They look to be down by around 30% and be back to 2006–2010 levels. Being food exporters, New Zealand and the onion sector are sheltered from this shock. Nonetheless, countries are trading less and there is greater pressure on the global supply chain infrastructure.



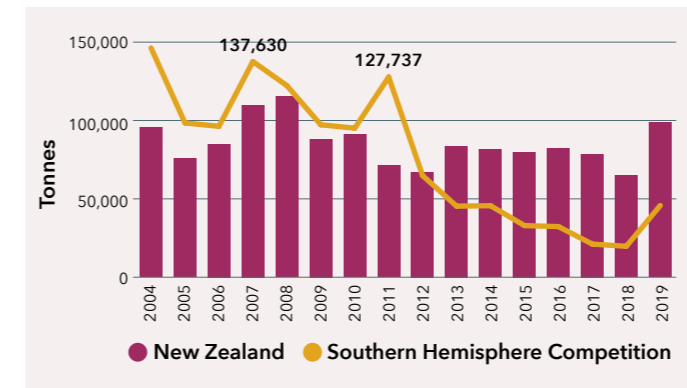
2 Greater barriers to trade:

- Around the world there is a greater focus on 'buy local' initiatives, which we will see in many of the countries we export to. The challenge is to tell a story about New Zealand onions that is more compelling than 'buy local'.
- Subsidies are increasing: New Zealand is a leader in promoting free trade and not subsidising the growing or exporting of agricultural goods. However, we know the playing field is not even and unfortunately, it looks like many significant economies and markets are going to provide greater support for local producers and exporters. In Australia, they will spend \$200 million on marketing and export grants this year. Individual Australian exporters can claim for up to \$150,000 in export marketing costs. Exporters are able to claim for costs of overseas representatives, marketing costs, marketing visits (including \$350 per day in market costs), trade fair attendance etc. In the European Union, they have just approved a stimulus package of 750 billion euros. A large part of this will go towards agriculture.
- Preventing exports and imports in some instances: We've also been seeing some countries restrict exports and imports. In some instances, medical equipment and/or food are being blocked from being exported to ensure countries have enough for themselves. In other circumstances, countries are blocking imports to protect their local growers and farmers.

“ To assist with navigating some of these global uncertainties, Onions New Zealand has recently launched our blueprint for improved export prosperity

Market Reliance

Southern Hemisphere exports to the European Union was another topic. The graph below illustrates New Zealand onion exports as well as those by all other Southern Hemisphere export nations. Southern Hemisphere exports have decreased from 240,000 tonnes in 2004 to around 110,000–120,000 tonnes, with New Zealand fortunately, maintaining the largest percentage of that trade.



Onions New Zealand's role is to provide the sector with alternative markets and maintain access to current markets. Over the coming years, the European Union will be introducing legislation around the European Union

Green Deal. One of the key pillars is around the 'Farm to Fork Strategy'. This strategy is focussed on reducing fertiliser and pesticide use, and promoting sustainable food consumption and supply chains. Those countries and producers who cannot meet the new 'green' requirements will fall behind. It is important that as an industry, we understand the requirements and are prepared to meet them.

Blueprint for improved export prosperity

To assist with navigating some of these global uncertainties, Onions New Zealand has recently launched our blueprint for improved export prosperity. It is centred around a need to work with government to improve our exports. The four key pillars of the strategy are:

- 1 Defend access to current markets
- 2 Diversify into new markets
- 3 Differentiate New Zealand onions globally
- 4 Activate and tell the story of New Zealand onions.

At the end of the day, it is the New Zealand government that maintains access to markets and gains access to new ones. The work the government does for the New Zealand onion sector is critical for the long-term prospects of our industry.





ASPARAGUS GROWERS READY FOR NEW SEASON

Words by Karen Orr: Business Manager, Horticulture New Zealand



Asparagus growers at their Farm Environment Plan workshop

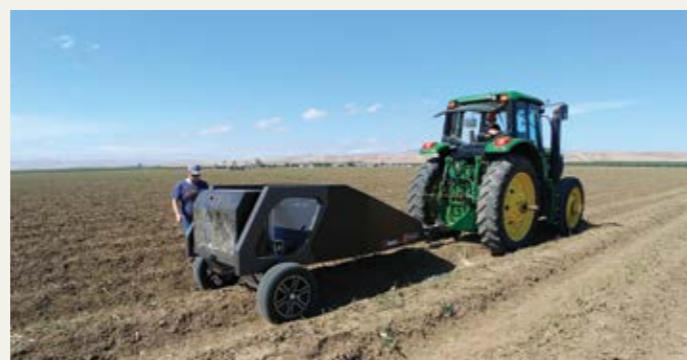
A healthy bunch of asparagus growers gathered in Taupō on Friday 7 August 2020 for a one-day workshop on Farm Environment Plans and the Annual General Meeting (AGM) of the New Zealand Asparagus Council (NZAC).

Over 95% of the declared planted hectares of asparagus in New Zealand were represented by the seventeen growers who attended the workshop. This strong representation paves the way for New Zealand grown asparagus to lead good management practice on their farms through using the farm environment planning system.

Comments from growers who attended were positive with one grower concluding "it's not as difficult as some things can be." Long-term asparagus grower George Turney said "the exercise itself stays in your mind and makes you think about it."

Prior to the AGM, Mike Chapman joined to update growers on the current situation with supply of labour. He talked about the RSE (Recognised Seasonal Employment) scheme workers currently in the country, work taking place with Immigration on visa extensions and managing potential shortfalls for the upcoming season.

Following this, NZAC chair Mike Arnold opened the AGM and presented to over twenty-five growers and associates on



Robotic asparagus harvester

the activities the Council has been involved in over the past year, along with plans for the upcoming season. Key activities include expanding on the successful promotions campaign initiated by the Council last season with 'In Season, NZ Grown Asparagus'. A new campaign will start in September and run through to early December with the involvement of 5+ A Day and social media specialists, Digital Café.

Other initiatives include recommencement of variety trials with seedlings being planted this season, and pre-emergent herbicide trials. Further information on these will be provided to growers as the trial work progresses.

It was Mike Arnold's last AGM as chair, with Sam Rainey from Mangaweka Asparagus elected as the new chair at the AGM. Sam thanked Mike for his support, commenting that he is looking forward to the opportunity to further the work he has put in with the executive as South West District representative for the past four years.

At the conclusion of the AGM, Dr Shen Hin Lim from the University of Waikato updated growers on development of a robotic asparagus harvester. Hin and his team, along with Robotics Plus, have developed version 1.5 of the harvester with the aim of improving spear cutting. The latest version is three times faster than the first harvester and trials are planned at Boyds Asparagus in the Waikato in September. The team plan to be able to demonstrate it by the end of October, so watch this space for more on this exciting development. ●



TOMATO RED SPIDER MITE

Words by Helen Barnes : General Manager, TomatoesNZ Inc.

We are continuing to work with the Ministry for Primary Industries (MPI) and other affected industries on a plan to survey the extent of the tomato red spider mite incursion.

This will occur in spring, when the mite is expected to become more active. So far, it has been identified in three Auckland locations, near Auckland airport, Pakuranga and Manukau.

The mite feeds on a wide range of plants in the *Solanaceae* family. It makes silk webbing to protect itself and its eggs. They multiply quickly and in large groups they can mummify plants, wrapping them up in silk webbing. They will feed on the plant until it dies. When they start running out of food, they gather at the top of a plant and make small balls of silk containing many mites and eggs. These balls can drift some distance on light winds and can also adhere to animals and people.

Crop hosts include tomatoes, potatoes and eggplants. They also attack beans, kumara and some ornamentals - roses and orchids. Weed hosts include the nightshades, shepherd's purse, cleavers and fat hen.

There are a few red mite species in New Zealand already. Identification requires an expert (acarologist). Lots of webbing is the most obvious sign that the tomato red spider mite is present.

More information and pictures are available on the TomatoesNZ biosecurity webpage, and MPI's website under 'Alerts'.

If you see any signs or symptoms, please call the MPI Pest and Disease hotline on **0800 80 99 66**.

New seed measurers for some viruses and viroids

On 23 July, MPI updated the Import Health Standards Seeds for Sowing to better manage the risk of several viruses and viroids that impact tomatoes, and to bring them into line with measures for other viruses.

The amendments were for *Tomato Mottle Mosaic Virus* (on tomato and capsicum seed), *Tomato chlorotic dwarf viroid* (on petunia seed), *Tomato apical stunt viroid* and *Tomato plant macho viroid* (on tomato seed); and amended measures for *Potato spindle tuber viroid* and *Tomato chlorotic dwarf viroid* on tomato seed. The Import Health Standard for Importation of Nursery Stock was also updated for these viruses and viroids on ornamental species.

About two years ago TomatoesNZ realised there were some gaps in the Import Health Standards for tomatoes, and commissioned a technical review of the Standards by Market Access Solutionz. Since then we have been actively working with MPI, including making submissions to their Emerging Risks system and on proposed amendments to the Import Health Standards, to ensure amendments are appropriate and minimise the risk of one of these viruses or viroids arriving here. The new measures are in line with measures that other countries including Australia have in place.

Tamarixia release project grower information and guides

The three-year Sustainable Farming Fund programme to monitor and release *Tamarixia* finished on 30 June 2020. A summary by the project manager, Dr Sally Anderson, was published in the August issue of NZ Grower (pp. 58-60).

While the long-term hope is that *Tamarixia* will establish self-sustaining populations in the natural environment, growers can also potentially use *Tamarixia* to help reduce Tomato Potato Psyllid (TPP) numbers in their crops through targeted biological control agent (BCA) releases into cropping environments.

To assist growers in using *Tamarixia* for managing Tomato Potato Psyllids, three guides are available on our website (<https://www.tomatoesnz.co.nz/hot-topics/tamarixia-release-project-grower-information-and-guides/?stage=Stage>):

- *Tamarixia* triozae release guide
- *Tamarixia* triozae insecticide use
- *Tamarixia* triozae survey guide

Supply of *Tamarixia* is now being managed commercially by Bioforce Ltd.

TomatoesNZ 2020 Annual General Meeting - please register

The TomatoesNZ 2020 Annual General Meeting will be held at 3pm on 25 September 2020, along with the Horticulture New Zealand and Vegetables NZ AGMs. At this stage, the plan is to hold it at the Pukekohe Indian Centre. The Annual Report and meeting papers will be sent to members in September.

All members will have received an invitation to register for the AGM event, which is free to attend. You can either attend in person or join via video conference using Zoom meetings. To register go to: <https://www.eventspronto.co.nz/HortAGM2020>. ●



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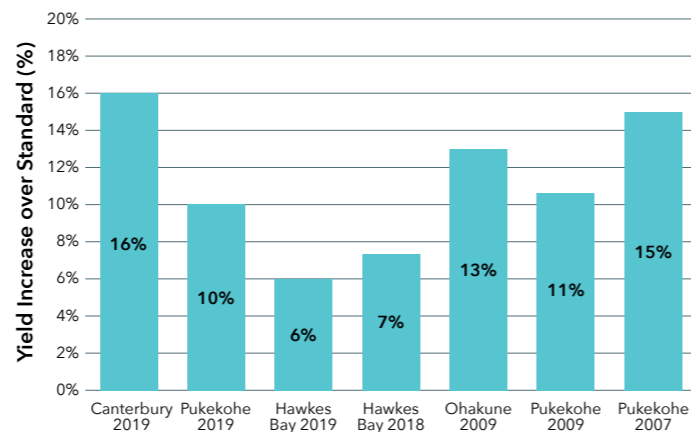
Mycorrcin is a soil biostimulant that activates populations of indigenous beneficial soil microbes that stimulate healthy root growth, improve soil structure and enhance nutrient uptake by the plant.

“Mycorrcin is a soil biostimulant that activates populations of indigenous beneficial soil microbes that stimulate healthy root growth, improve soil structure and enhance nutrient uptake by the plant

The trials were conducted over multiple seasons in the major potato growing regions of New Zealand including: Canterbury, Pukekohe, Hawkes Bay and Ohakune. The varieties used in the trials included Agria, Innovator and Russel Burbank.

In eight trials the application of Mycorrcin either as a single application in-furrow at planting (8 L/ha) or split application (5 L/ha at planting and 3 L/ha at mounding) lifted marketable potato yield on average by 7.5 T/ha or 11 % (range 6 - 16 %). The application of Mycorrcin increased the gross profit per hectare on average by \$2,075/ha (assuming a \$300/T price for marketable potatoes).

Effect of Mycorrcin in Increasing Potato Yields



These trials demonstrate that regularly applications of the soil biostimulant Mycorrcin in newly planted potato crops substantially sped up establishment and increased yields and uniformity leading to better market returns in a wide range of potato varieties, soils and climates around New Zealand. ●

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