# **NZGROWER**

VOL 76 | NO 07 | AUGUST 2021

HORTICULTURE NEW ZEALAND

# THRIVING PIRONGIA VEGETABLES PAGE 24

13 REGIONAL YOUNG GROWER WINNERS 20 NZGAP EMS ADD-ON WELCOMED 30 HORTNZ BOARD DIRECTOR RETIRES

# SPECIALISED MACHINERY AND GROWING EXPERTISE FROM TEGROUND UP

# The right tools for the job, comprehensive support, and expertise to keep your business growing.

To improve yield and profitability you need specialised tools, and the best advice and back-up. At Landpower Vegetable Centre we provide a full range of vegetable cultivation, separating, harvesting, handling, transportation and preparation equipment from GRIMME, SPUDNIK and ASA-LIFT to support you and provide better harvest outcomes.

For your local Landpower Vegetable Centre dealer go to:

iLT:



## vegetablecentre.com

# CONTENTS

## **UP FRONT**

- 2 Deputy President's Word: Team food and fibre sector
- 4 The Chief Executive: Brand New Zealand - what is it worth?

## YOUR LEVY AT WORK

- 7 Natural resources and environment
- 8 On-farm biosecurity series: farm outputs
- 10 New blood extends GoHort programme to Pukekohe
- 12 Getting a better deal for growers
- 13 Record number of contestants for Gisborne Young Grower
- 14 2021 Nelson Young Grower Jonathan Bates backs horticulture careers

## YOUR INDUSTRY

- 17 Horticulture career of choice for Zimbabwean refugee
- 20 Environmental add-on encourages ongoing improvement
- 24 Pirongia Mountain influences weather and branding
- 28 Growers making changes getting ahead of regulation
- 30 Calibre of new leaders assures industry's future
- 34 Getting it right with greens
- 36 Industry solutions sought for Farm Environmental Management Plans

## TECHNICAL

- 39 Linking biology and technology for food production
- 40 Enhancing crop productivity with biochar technology
- 42 Future proofing vegetable production
- 44 Sustainable Vegetable Systems: connecting with growers
- 46 Mechanical ventilation in semi-closed glasshouses

## **PRODUCT GROUPS**

- 50 New Zealand Asparagus Council
- 52 Onions NZ Inc.
- 54 TomatoesNZ Inc.
- 56 Potatoes NZ Inc.
- 58 Vegetables NZ Inc.









## **ON THE COVER:**

Mountain influences weather and branding, see page 24. Photo by Elaine Fisher.

## WHAT'S NEW

A regular advertorial section of new products and services. This publication does not endorse the products or services featured here.

- 59 Agrimedia Streamlined spray manual on the way
- 60 Seasonsafe Looking after seasonal workers in the time of Covid-19

# **TEAM FOOD AND** FIBRE SECTOR

Words by Bernadine Guilleux : HortNZ deputy president

## Tēnā Koutou Katoa

Barry asked me to put a few words together for this month's magazine. My immediate thought was the world is a busy place, and a noisy one at that. Who am I to add to the clutter?

That said, my personal approach is to gather and listen to as many views as I can, so that I am better placed to formulate an understanding of the world around me. Basic facts homework for anyone wishing to participate effectively within an advocacy organisation such as Horticulture New Zealand.

I recently had the unique opportunity to listen and gather as part of Te Hono Aotearoa, held in Waitangi, Kerikeri, in late June.

Te Hono is a partnership event between the leaders of New Zealand's food and fibre sector companies, iwi and government agencies. Conceived in 2012 by a New Zealander, Te Hono was devised to build the foundations of a winning team - shared vision, knowledge, and connections. This team was then the New Zealand primary sector, now known as the Food and Fibre sector.

New Zealand Trade & Enterprise (NZTE), the Ministry for Primary Industries (MPI), KPMG and the ASB Bank felt, and still feel so far, that it is an initiative worth supporting. Despite that, there are varied views on the legitimacy and worthiness of such an event, who attends, and why a humble sector like New Zealand's land-based industries should be pretentious enough to think this was a good idea in the first place. Te Hono in te reo means to connect. It comes from a broader concept of Hono Tangata, Hono ki te ao. The English translation of this is strengthening relationships by linking to the land and connecting to the world. The purpose of Te Hono is to offer the shared experience of world-class thinking in a condensed, future-focused environment. As with anything, what you do with your knowledge and experience is a democratic choice.

Conceived in 2012 by a New Zealander, Te Hono was devised to build the foundations of a winning team - shared vision, knowledge, and connections

The world is moving at speed through unprecedented change and the virtual world is so much more real than we like to imagine. Many seem to believe that resisting change is the solution, that if we shout loud enough then the tsunami will stop, or that it will be smaller than all the scaremongers say it is going to be. From a pragmatic viewpoint one can agree, but ultimately plan to get to the top of the hill just in case. If the tsunami of change ends up being a small tidal wave well great, at least we took the kids up the hill and enjoyed the trip.

Norman Borlaug was the brain behind the industrialised agriculture that we see on Netflix. His motivation to develop a strain of maize that could be grown in the impoverished countryside of Mexico was born from the emotion he felt seeing starvation firsthand. Today, there are people with the same motivation working on Food-as-Software that will also revolutionise food supply as we know it, providing the human population with adequate nutrition.

What is different today from when Borlaug was developing his maize is that there are simply more people on the planet, and a less stable natural environment. What is the same now as it was back then, is that humans look to technology to answer big challenges. The European Union has recently declared a review of their stance on geneediting (CrispR technology) after a European Commission report release stated such tools will help support agricultural sustainability. The EU recognises that to make such a position change, they will need extensive public consultation lengthy and robust at that.

Some food scientists will say that regenerative agriculture is simply 'shining the horse and cart' whilst precision fermentation firmly takes over food production as we know it, and right underneath our noses.

As a marketer trained in social sciences, I would suggest that New Zealand has the type of global reputation to underpin a winning play at artisanal agriculture.





GLOBAL CONSUMER RESEARCH TELLS US THAT YOUNGER GENERATIONS ARE CONSUMING LESS AND LESS RAW FRUIT AND VEGETABLES AND ARE NOT PARTICULARLY INTERESTED IN COOKING

Ultimately this is a food production system not to feed the masses, but to provide product options that consumers can select to help stabilise the planet's natural environment and be rewarded with a feel-good outcome. Tagged as 'regenerative', New Zealand can define what this means in our context. Whether one agrees with environmental regulation or not, marketers will say that if our country has high minimum standards, this helps us sell our basic products at a price that gives us the quality of life we wish for our country.



## The purpose of Te Hono is to offer the shared experience of world-class thinking in a condensed, futurefocused environment

In summary, unless New Zealand agriculture is a net positive contributor to our natural environment, then its right to play becomes a whole lot harder to justify. This could be a complicated way of saying so let's just get on with addressing climate change and accept the public-private partnership offered that will help equip our organisations to ride the global tide towards new supply chains.

It is as simple -and as complex - as that.

This year, Te Hono saw a new generation of food producers come together by inviting a group from Future Food Aotearoa - a movement representing entrepreneurs who see food tech as New Zealand's future. How to convince the sturdy and humble backbone of New Zealand's economy that their future is an Avatar of what they know. The point that United States academics shared at Te Hono is that New Zealand can continue being humble, so long as we make sure we are acting for the good for the planet.

66 Te H

Te Hono in te reo means to connect. It comes from a broader concept of Hono Tangata, Hono ki te ao. The English translation of this is strengthening relationships by linking to the land and connecting to the world

Another point made was to diversify risk by climbing the chain into higher valued, processed versions of current production. Global consumer research tells us that younger generations are consuming less and less raw fruit and vegetables and are not particularly interested in cooking. Therefore, our opportunity to reach consumers will be twofold – intermittently into their stomachs through the strength of our commodity supply relationships, but also into their hearts and minds through the high-value consumer products we dream up. ●

## **NZ**GROWER

#### Editors:

Emily Pope Ph: 027 617 6200 Email: emily.pope@hortnz.co.nz Andrew Bristol Ph: 021 021 62 021 Email: andrew.bristol@hortnz.co.nz

#### Advertising Manager:

Debbie Pascoe Ph: 027 485 8562 Email: dpascoe@xtra.co.nz

#### Design:

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

Subscriptions: Email: info@hortnz.co.nz

#### .....

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

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

ISSN: 2230-2700 (Print) ISSN: 2744-5712 (Online)



MPA Associate Member (NZ)



This publication uses vegetable based inks and environmentally responsible paper produced from Forest Stewardship Council® (FSC®) certified, Mixed Source pulp from Responsible Sources.



Paper produced using Elemental Chlorine Free (ECF) and manufactured under the strict ISO14001 Environmental Management System.

This magazine is posted in an EcoPure plastic sleeve. EcoPure accelerates the biodegradation of treated plastics in microbe-rich environments. Plastics made with EcoPure are biodegradable in aerobic and anaerobic environments.



Words by Nadine Tunley : HortNZ chief executive

## For some time now, New Zealand has traded on the '100% pure' brand and status, largely promoted with incredible imagery from our tourism industry - a brilliant marketing campaign.

As food providers, we've built on that positioning to reach into the hearts and minds of global audiences. In turn, New Zealand has become well-recognised as a credible, safe food provider with key trading partners.

In 2012, the then government set a challenge to double export earnings via the Business Growth Agenda (BGA), a challenge the horticulture sector embraced. Horticulture New Zealand developed a strategy to double exports by 2023, Pipfruit New Zealand said it would double exports by 2022 and New Zealand Avocado secured a Primary Growth Partnership and set about to do the same.

Ten years on, many horticulture sector groups have more than doubled their exports, and in doing so, have considerably improved New Zealand's economic outcomes. Horticulture, as with many of our primary sector colleagues, is required to plan several years in advance for any potential expansion or contraction strategies - something imposed on us by mother nature and beyond our control.

Using trees as an example, if an orchardist wants to plant new trees or vines, they need to order and pay for those trees two years ahead of when they plan to plant them. This is so nurseries can have the necessary stocks available, bearing in mind that annually, there are about 1.5 million apple trees planted per annum at a commercial level, excluding garden centres and domestic use.

Working within these timeframes, growers are also required to budget for the capital to plant. This capital investment per hectare can range from about \$100,000 per ha to \$600,000 per ha, depending on licensing costs and the infrastructure used to grow the plants on. As you can see, planting a 10-ha block in one variety can easily set a grower back \$1 to \$6 million.

Once the trees or vines are in the ground, it is a further three to five years before the plants will bear any meaningful volume of fruit. At best, an orchardist is counting on returns in five years' time, sometimes even eight. Legend, right? Making changes in this kind of environment is like trying to turn around an oil tanker in a hurry to avoid a storm.

Capital investment is required every step of the way. Therefore, if market conditions, consumer preferences, market access via trade agreements and or central or local government policies change, orchard entities are at risk of losing significant amounts of time and money.

This is one of the discussions we constantly have with policy makers, so they gain an understanding of the dedication and effort our growers apply, the timeframes they operate in, and how any new policy will affect growers and their operations.

#### Thinking intergenerationally

Growers have to think intergenerationally. They are forced to do so by the cycles and rhythms of the natural world. Growers accept change needs to occur with regard to freshwater, the environment and land use. They just need more realistic timeframes to adjust.

The situation the world is in with climate change has been building up over several decades. But not so long ago, the push was all about increasing productivity and yields per hectare. This was essentially a response to increased consumer demand, as both global and domestic population growth has increased exponentially.

New Zealand needs to remain economically viable to be able to afford to implement necessary changes around the natural environment. By introducing too many changes at once, coupled with ongoing labour restrictions, we will reverse all of the horticultural successes of the past decade within the next two to three years.

Most at risk is the New Zealand brand, which we have spent so much time building, as well as the security of our own domestic food supply. Considerable amounts of effort over long time periods go into the food our growers produce. To circumvent that effort through relentless and unrealistic expectations will not achieve any of New Zealand's environmental or economic aims, let alone protect our valuable and prized New Zealand brand on the world stage.



# NSR.

# Let's cultivate a thriving future for Aotearoa New Zealand

wsp.com/nz

# YOUR LEVY AT WORK

**INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD** 



# **NATURAL RESOURCES** AND ENVIRONMENT

## Words by Michelle Sands : HortNZ environment manager

#### **Natural and Built Environments Act**

The Natural and Built Environments Act (NBA) is part of the government's reform to replace the Resource Management Act (RMA) with three new Acts:

- National and Built Environments Act the primary replacement for the RMA.
- Strategic Planning Act coordination and integration through long-term spatial strategies. High-level and strategic.
- Climate Adaptation Act to address issues associated with managed retreat.
- The NBA is being delivered in a two-stage select committee process:
- A Select Committee inquiry into an exposure draft of the NBA is the first, and current, stage. The Select Committee is seeking comments on the exposure draft.
- The second stage will be a standard legislative process (including the opportunity to submit) for the full Bill, along with the Strategic Planning Bill and Climate Adaptation Bill. Indications are that this process will begin in early 2022.
- The Bill is expected to be passed into law by the end of 2022.

The Parliamentary Paper explains the government's reform objectives. They are to better protect the natural environment, better enable development within biophysical limits, give effect to the principles of Te Tiriti o Waitangi, better prepare for climate change risks and natural hazard risks, and improve system efficacy and efficiency.

Horticulture New Zealand is developing a draft submission and consulting with growers. Key issues for the HortNZ submission include:

• The Bill has an emphasis on providing for more housing and infrastructure. We think the Act will result in more pressure on food production within growing areas close to urban centres. We are seeking that food, along with housing and water, is recognised in the Act as essential to human health.

- We support the recognition of highly productive land, and seek policy to enable its use for food production, as well as its protection from inappropriate subdivision.
- We support the emphasis on climate change adaptation and mitigation, and seek that legislation provides support and direction to encourage land use diversification.

Submissions on the draft Bill close 4 August 2021.

#### Freshwater Farm Plan Regulation

The government is introducing mandatory and enforceable freshwater modules of farm plans.

The new regulations will set out requirements for freshwater farm plans, and timeframes for when these plans are required to be implemented.

It is likely that the freshwater farm plan modules will need to include:

- A farm map identifying features such as waterways, high erosion-prone and discharge areas, and other risks to the health of water.
- A risk assessment across specific activities including irrigation and application of nutrients.
- A schedule of actions to manage identified features and address identified risks.

The government has released a discussion document. HortNZ will consult with growers and develop a submission.

Key issues that HortNZ's submission will likely include are that freshwater farm plans are aligned with existing GAP (Good Agricultural Practice) schemes and provide a streamlined approach for growers to track and demonstrate the good work they are doing to manage environmental effects. We are advocating for a system where the cost to growers is lower, and there is more certainty for growers about what they need to do, as well as more certainty for the community about the rate of improvement in water quality that can be expected.

Submissions on the Freshwater Farm Plan regulation discussion document close on 12 September 2021.



## CONTACT US

Freephone: 0508 467 869 Web: www.hortnz.co.nz

Phone: 04 472 3795 Email: info@hortnz.co.nz Fax: 04 471 2861

# **ON-FARM BIOSECURITY SERIES:** FARM OUTPUTS

Words by Anna Rathé : HortNZ biosecurity manager

## Your farm or orchard operation is likely to have a number of outputs such as produce and waste that leave your property.

The biosecurity measures you put in place on your property support biosecurity in your community and manage the risk to the wider industry. It is important to avoid spreading any known (or unknown) pests and diseases from your property to other properties via farm outputs. Being a responsible grower protects your reputation and your business. It's about paying it forward to protect other growers too.

Farm outputs should be included in your on-farm biosecurity plan. Contact your industry body to see if they have a crop specific template that you can use. If not, you can use the HortNZ template available online. Some common farm output risk areas are explored below, along with risk reduction actions for you to consider.

#### Produce

Moving harvested fruit and vegetables off your property could present a biosecurity risk for the recipient if contaminated material is moved from one site to another. Remove any soil or adhering plant material from produce before it leaves the property. Keep an eye out for any signs of pests or disease and report them immediately if spotted. Try not to bring unsold produce back to your property as there is a risk of cross-contamination. If you do, store the produce separately to minimise the likelihood of transferring pests and pathogens.

#### **Product packaging and containers**

Product packaging and containers associated with harvest (bins, crates etc) can be sources of contamination and a breeding environment for pests and pathogens if not managed appropriately. Remove all soil and adhering plant material from packaging and containers before they leave the property.

#### Waste management

Farm and orchard waste can take many forms, each with a different level of biosecurity risk. Types of waste include gloves, booties, clothing, sample bags, disposable containers, plant material, growing media, harvest debris and reject fruit. There are a number of treatment and disposal options to select from depending on the type of waste, crop and pests of concern. Treatment and disposal examples include cleaning or soaking in bleach or disinfectant, burning, heat treatment, or containment in sealed bags for removal, transfer to deep burial sites by a recognised waste removal company, among others. Treatment and disposal options need to be selected carefully to ensure they are appropriate for the type of waste and level of potential biosecurity risk.

Moving harvested fruit and vegetables off your property could present a biosecurity risk for the recipient if contaminated material is moved from one site to another

Disposal of material that is known to be contaminated with pests, pathogens or weeds needs to be undertaken carefully to prevent spread on your property, or to neighbouring properties. Known infected plant material or growing media should be handled to minimise any material being lost to the environment during transport or disposal. Where fruit or plant material is moving from an area contaminated with a specific pest or disease to an uncontaminated area for disposal any movement controls set by the Ministry for Primary Industries (MPI), or your industry body, must be followed.

#### In conclusion

The above is not an exhaustive list. You should think about any additional outputs that leave your property and how to minimise any potential biosecurity risk that they may pose to others in your sector.

Remember, if you see anything unusual associated with your farm outputs do the right thing and report any suspect exotic pests or diseases via the MPI pest and disease hotline: **0800 80 99 66**.

Disclaimer: While every effort has been made to ensure the information in this publication is accurate, HortNZ does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information.

CONFIDENCE GROWS HERE



## Zampro Fungicide

# Protect against disease with confidence

Zampro<sup>®</sup> delivers ultra-efficient protection against downy mildew in onions and late blight in potatoes. A dual action fungicide, Zampro's advanced formulation combines the proven efficacy of dimethomorph with the high-powered innovation of Initium<sup>®</sup> to allow outstanding control. With less active per hectare, it's a powerful alternative to mancozeb.

## Talk to your local reseller or visit crop-solutions.basf.co.nz

ALWAYS READ AND FOLLOW LABEL DIRECTIONS. © Copyright BASF 2020 ® Registered trademark of BASF. W248342 08.2020

## **BASF** We create chemistry

# **NEW BLOOD EXTENDS GOHORT** PROGRAMME TO PUKEKOHE

Words by Glenys Christian



Jaspreet Bhatia - horticulture needs Kiwi students from the science, business and technology areas

## Newly appointed Pukekohe Career Progression Manager, Jaspreet Bhatia, says that while students may be attracted to conventional careers in areas such as IT and science, they shouldn't forget about the opportunities that horticulture offers.

"Those other careers may sound exciting," Jaspreet says. "But don't forget growers are providing us with the necessities of life."

Jaspreet started work in mid-June as part of the extension of the national GoHort programme with support from the Ministry for Primary Industries (MPI). In 2020, the existing five career progression managers based in other parts of the country attracted 485 permanent workers to the industry and a further 256 horticultural apprentices – placing 1,077 individuals into training.

The GoHort network promotes horticulture as the career of choice for Kiwis. Jaspreet says the aim is to connect people to the industry, educate providers and government agencies.

"We bridge the gap between education, training and employment," she says. "We help New Zealanders decide on the training that is right for them and work out their career progression pathway. We promote horticulture careers to New Zealanders by showcasing opportunities in our diverse and vibrant industry."

Jaspreet says it's not just about putting food on the table.

"There is a lack of awareness where people think that horticulture is just about growing food. We definitely need people who are good with science, business and technology too."

The GoHort website (www.gohort.co.nz) outlines different career options available, suggesting that students consider an agribusiness career if they are interested in supply chain management, trade, marketing or international relations. This could see them working on international trade floors, marketing and selling premium, innovative new products and dealing with supply and logistics for fresh produce and by-products. Then there is the wide range of work undertaken by horticulture business professionals such as advisors, accountants, and developers, in providing services to orchardists. The website gives examples of expected salaries for different roles, and profiles a number of young people who have embarked on a career in horticulture. A range of jobs available around the country are also listed.

In 2020, the existing five career progression managers based in other parts of the country attracted 485 permanent workers to the industry and a further 256 horticultural apprentices - placing 1,077 individuals into training

Jaspreet has over 10 years' experience in running her own food business. She immigrated from India in 2008 but after the Global Financial Crisis it was hard for her to find work.

"I always liked food and I wanted to do something creative," she says. "I learned on the go."

After a lot of research, she set up a business, Kati Grill, on Auckland's Karangahape Road selling popular Indian Street food - kati rolls, a roti with a curry filling. While the choice of location was largely due to Auckland University being nearby, she quickly found her regular customers included not just students. When the business needed an upgrade, she opened a second store in Mount Roskill in 2014, then an outdoor catering service in 2018, providing grazing-style Indian tapas that would appeal to millennials.

"I enjoyed the process of talking to people and getting to know their needs about hosting an event, which helped me to get better at my craft."

With roadworks affecting food traffic on Karangahape Road and Covid-19 forcing the cancellation of events, Jaspreet decided not to renew the lease and closed her business to spend some time with her children, aged 10 and four.

## **GG** Jaspreet has over 10 years' experience in running her own food business

Now back in the food industry, Jaspreet is excited to be gaining more knowledge about its workings. "New Zealand's growing conditions are so good and the quality of produce so high - that's one of our biggest assets," she says. In their multi-generational businesses, growers have become very resilient, providing consumers with food, no matter what. "But we need young growers because what do we do if we don't have them?"

Jaspreet is also the new secretary and administrator for the Pukekohe Vegetable Growers' Association (PVGA) which she believes will give her a better understanding of the needs and challenges of the area's growers.

Kylie Faulkner, the president of the PVGA, says Pukekohe growers were excited to see Jaspreet's appointment.

"The PVGA has felt that we wanted to be able to do more in the careers space," Kylie says. "We've already got a good association with Pukekohe High School, but it's important to have someone who understands growers' needs and will take the hard yards out of identifying some of the career opportunities available."

Good statistics from other areas where career progression managers are placed are promising for the sector. It is hoped that Jaspreet will contribute to that trend.

Her role as PVGA secretary will work in harmony with her position as career progression manager, being exposed first-hand to growers' concerns – an advantage when it comes to attracting young people into roles they would best fit in the horticultural industry. ●



- ✓ Industry Training
- ✓ Residue Testing
- ✓ Plant and Seed Health Diagnostics
- ✓ Organic Certification
- ✓ GAP and Sustainability Programmes
- ✓ CropSure Safe Spray Assurance Programme
- ✓ Approved Supplier Certification and more



Supporting Aotearoa's Growers



Talk to us today 0508 00 11 22 info@asurequality.com

# **GETTING A BETTER** DEAL FOR GROWERS

Words by Geoff Lewis



Katherine Rich, New Zealand Food and Grocery Council chief executive

## Making sure the little guys get a fair deal will be a key theme covered by New Zealand Food and Grocery Council chief executive Katherine Rich at this year's Horticulture Conference.

The current supermarket scene is dominated by a 'duopoly' of two large companies - the Australian-owned Progressive Enterprises and the Foodstuffs cooperative which provides the vast majority of the grocery trade around New Zealand and importantly for those in horticulture, a large part of the fresh produce market.

However, growers of fresh produce can often become the casualties in the competition between these two large companies, Katherine says.

"New Zealand's supermarket duopoly is causing significant issues for suppliers and consumers. For suppliers, squeezed margins are resulting in under-investment, under-supply and reduced innovation. For consumers there is less choice, variety, innovation, price, and other non-price competition.

"At the moment growers are caught between two supermarket chains where there is no competition on the supply side. There is the general feeling that growers are price-takers – they take what the big chains will give them." Katherine Rich cited a strawberry grower she had recently talked to.

"He told me he was getting the same price he was 45 years ago."

She is awaiting the outcome of the Commerce Commission's Market Study, due out in the week before the conference, and hopes it will result in a Grocery Code of Conduct as is found in the United States, Canada and Australia.

"The code works well in those markets, making sure smaller manufacturers and growers get a fair deal and improving transparency. We need to introduce a mandatory code which sets out how supermarkets deal with suppliers, payments, deductions, rebates and levies.

Katherine says New Zealand's growers and grocery manufacturers are facing the perfect storm.

"We've had quite a few smaller producers sell out to bigger companies. If they can't make a profit and pass costs on it makes it difficult."

A variety of what had been New Zealand-based grocery manufacturing operations has disappeared over the past few decades.

"And these used to be major players in starting young people into these industries."

## A-variety of what had been New Zealand-based grocery manufacturing operations has disappeared over the past few decades

Katherine says the conference will give her the opportunity to talk to growers and farmers and congratulated HortNZ on its pro-active stance.

Katherine Rich is chair of Fairtrade Australia New Zealand, deputy chair of the Food Safety Advisory and Assurance Council, and a board member of the Health Promotion Agency.

Horticentre TasmanCrop HortFertplus

# **RECORD NUMBER OF CONTESTANTS** FOR GISBORNE YOUNG GROWER

Horticentre

#### Words by Andrew Bristol



A record number of contestants competed in this year's Gisborne Young Grower competition, putting their horticultural skills and knowledge to the test

## The organisers of the Gisborne Young Grower of the Year competition had to turn contestants away, for the first time in the competition's history.

"While that's a great position for the competition to be in, it is also pretty disappointing for the hopeful contestants who missed out," says organiser, Scott Wilson, general manager at Kaiaponi Farms Ltd.

"But the logistics of the 10 competition modules dictate that we can only accommodate 10 contestants on the day. We did however, provide training exercises for potential 2022 contestants so they could gain some experience and have some fun."

On Thursday 8 July contestants had a cool start to the morning, but Gisborne turned on the sun and a blue sky with no wind for the rest of the day.

"The competition was close and came down to the speeches, which were given at the awards dinner that night," says Scott.

"Around 200 people attended the dinner at the Vineyard Restaurant. This was also a great opportunity for people from across the horticulture sector in Gisborne to catch up and celebrate the positivity of our young leaders in what has been a challenging 12 months." The winner on the night was Jamie McIntyre, 25, an orchard hand at Illawarra Farms.

This was also a great opportunity for people from across the horticulture sector in Gisborne to catch up and celebrate the positivity of our young leaders in what has been a challenging 12 months

"What a day and I'm really stoked," said Jamie. "This is the best job you can have. I love what I do as growing is such a fantastic lifestyle choice. I am passionate about growing and want to share what happens on our orchards, so more people can have a slice of the lifestyle that we can all lead."

Jamie will represent the Gisborne growing community in the national Young Grower of the Year competition in Wellington on 22-23 September, where he and six other regional finalists will compete for their share of \$30,000 worth of prizes. Sponsored by The Horticentre Group

# **2021 NELSON YOUNG** GROWER JONATHAN BATES BACKS HORTICULTURE CAREERS

Words by Anne Hardie



Contestants in the 2021 Nelson Young Grower competition

Winner of the 2021 Nelson Young Grower competition, Jonathan Bates, was planting and pruning before he left primary school, encouraged by his grandmother who instilled in him a passion for horticulture.

Jonathan's progression up the horticulture career ladder occurred through opportunities that arose along the way rather than following a clear pathway, an area he says industry could work on.

"School leavers need a clear career progression pathway, so they know where they are going and the steps they need to take to get there," Jonathan says.

The 28-year-old grew up in cherry and stonefruit country around Alexandra, where he gained his first insight into orcharding, picking Golden Tatura peaches during one of the school's annual work days. Jonathan then "fell into a job" after doing summer work on a local orchard. The boss's father, Stuart McIntosh, tapped him on the shoulder, showing him all he knew about grafting, which led to a longer-term job. "It made me see it as a career rather than just a job picking fruit," Jonathan says.

Stuart was designing his own cultivars at the time. The orchard included cherries, stonefruit and apples, which meant Jonathan "got to have a fiddle at everything." Eventually he got involved in a 100ha orchard development. It was on this site where he later married Sidonee in a ceremony where they turned off the irrigation 20 minutes before they exchanged vows.

When Covid-19 hit, Sidonee lost her job as a landscaper, and with few jobs on offer around Central Otago the couple needed to look for other opportunities. Jonathan found work with Birdhurst Ltd in Motueka where he has spent the past 10 months in what he thinks of as his "perfect job" as a block supervisor.

The role involves overseeing about 20 staff from apple harvest through to pruning and working the three-row sprayer which he describes as an "awesome machine" capable of covering 6ha in 45 minutes.

It's Jonathan's third time entering the regional Young Grower of the Year - twice in Central Otago where he

## Sponsored by:

## Horticentre Group HortFertplus

came second and third, then winning this year's regional competition in Nelson.

"I was definitely planning on entering this year to meet people in the industry and learn region-specific aspects like the different soil structures. The soil can change five times across one block here.

"The speech was the hardest because I thoroughly despise public speaking, but it was good practice in front of 300 people."

Jonathan spoke about how Covid-19 had impacted him personally as well as his work organisation. The pandemic prompted his move to Motueka and exacerbated the labour shortage for the industry, highlighting the need to attract people into careers rather than just part-time seasonal work.

"The people are there but we can't seem to attract them. It's an issue we've had since before I was involved."

Being deemed essential workers during lockdown threw a positive light on the horticulture and agriculture sectors, something Jonathan hopes will help attract more people into the industry.

"It definitely helped those within the industry take pride in their roles," Jonathan says.

"Being called an essential worker changed how you thought about your job. You knew it was important, but no-one else gave us recognition for it.

I hope it continues into the future."

He says accommodation will have to improve in the industry to attract more people.



HortNZ chief executive, Nadine Tunley, and Nelson Young Grower organiser, Richard Clarkson (right), presented Jonathan with his award at the evening awards dinner

He and Sidonee have "amazing" accommodation which made moving to Motueka that much easier. It's part of the company's purpose-built facility for Recognised Seasonal Employment (RSE) Scheme workers and other staff, with a soccer field and a volleyball court that even has Golden Bay sand on its base. But not all orchards provide adequate accommodation, and he says there are seasonal workers living in cars or vans around the country.

"An orchard should be able to accommodate all its staff. If it doesn't pay for itself, you have to rethink what you are doing. If I couldn't get accommodation through work, I wouldn't have moved here."



# YOUR INDUSTRY

**ACROSS THE SECTOR - ACROSS THE COUNTRY** 



# **HORTICULTURE CAREER** OF CHOICE FOR ZIMBABWEAN REFUGEE



Words by Elaine Fisher



Tam Cole-Holt discovered a love for horticulture while working on an organic farm in England

## Resilience and positivity are among the personality traits which make for a good horticulturalist. A grower in Motueka has exercised these traits more than most, and not just in her horticultural career.

Tam Cole-Holt, now assistant block manager pipfruit for Birdhurst Ltd, arrived in New Zealand with her family in 2000 as a refugee from Zimbabwe's brutal regime.

"My family was given just two weeks to leave the country and arrived at the airport with two suitcases each and \$US500 between us. I was 16," Tam says.

"New Zealand and Canada were the only countries who cared about what was happening in Zimbabwe, and said if you can get to us, we will help you. We were supported when we arrived with transport, accommodation and to get on our feet by a group set up to assist refugees from Zimbabwe. It was challenging but coming to New Zealand was the best thing we could have done."

Tam's aunt and uncle back in Zimbabwe had been the printers for the Movement for Democratic Change -Tsvangirai (MDC-T) the opposition party to the ruling Zimbabwe African National Union - Patriotic Front (ZANU-PF) party.

"When ZANU-PF found out about that, they targeted our family. Given all the murders and disappearances which were happening at the time, we had no option but to leave."

Tam still speaks fondly of the bounty of the land of her birth.

## 66 My family was given just two weeks to leave the country

"It is a beautiful country with so many natural resources including wonderful soil and climate. You can grow just about anything there. It was a prosperous country but unfortunately it did go downhill from the late 1970s when the independence war started. Today unemployment is at 90% which is hard to wrap your head around. It is not a place you would want to be."

Starting over in a new country was not easy but Tam was determined to make the most of the opportunities.



Pictured here with her team, Tam is assistant block manager of pipfruit for Birdhurst Ltd of Motueka

That included the chance to travel to Europe for two years, which is where she discovered a passion for horticulture.

"I was looking for work when a friend got me a job on an organic vegetable farm near Canterbury in England. Until then, for me food was bought from the supermarket, and I didn't think much about how it was grown or where it came from. I was fascinated to see how relatively easy it was to grow food, even in England's climate, so when I returned to New Zealand, I wanted to grow whatever I could."

Tam developed a large home vegetable garden, experimenting with different crops, even those she didn't like to eat.

66

## 1 really do strive to lead by example and encourage others to achieve their maximum potential

"I learnt to save seeds too and discovered so many different aspects of horticulture that fascinated me. I knew I wanted to work with plants, no matter if they were amenity plants, vegetables or fruit trees, if it was a plant, I could grow and manipulate to its maximum potential that was what I wanted to do."

She looked for work in horticulture and enrolled for the National Certificate in Horticulture Level 3 through the Nelson Marlborough Institute of Technology.

"Being self-driven to learn and gain qualifications aided me towards securing a job, and later an apprenticeship in high-tech glasshouse vegetable production. During this time, I finished my Level 3 and Level 4. Upon completion of my apprenticeship, I moved to the outdoor vegetable division to gain further skills, while undertaking my Level 4 Advanced. "I was then accepted into the HortNZ Leadership Programme 2019 to further develop my leadership skills and gain valuable knowledge on how to drive my career while constantly promoting horticulture. Through networking on the programme, I was offered my current position which has aided further growth and progression of my career."

Tam is a strong advocate for the HortNZ Leadership Programme. "It offers a fantastic opportunity for anyone in the industry. You do not have to be in senior management to apply. It is such a valuable course for those in the horticultural sector to grow personally and find stepping stones to progress your career. It benefits the whole industry.

"The programme represents the biggest change in my horticultural career as it taught me a lot about myself. I learnt to lead myself before leading others.



Tam loves discovering New Zealand's great outdoors through tramping

If I stop learning, growing, and aspiring to be better, I cannot expect the same from my staff, so I really do strive to lead by example and encourage others to achieve their maximum potential."

True to that philosophy, Tam is continuing to study, working towards a Diploma in Horticulture from Lincoln University, alongside her full-time job with Birdhurst. The role involves working under a block manager for one of the many blocks which make up Birdhurst's roughly 250 ha apple orchards.

"Individual blocks have different requirements and timeframes for management because of different soil types, tree varieties and rootstock, so each block has a designated manager who knows the ways to manage the trees for the best production.

"My role includes supervising pruning, thinning, harvesting and undertaking spraying of the orchards, amongst many other tasks."

## Tam is a strong advocate for the HortNZ Leadership Programme

The resilience and positivity Tam demonstrates through her refugee experience are strengths which no doubt helped her cope with the devastation of last Boxing Day's hailstorm in the Tasman district.

"Effectively we lost 50% of the apples in less than 25 minutes. We had spent a whole year preparing for the harvest. Everything you do from the end of the previous harvest is working towards the next one.

"It was very hard, and not just for the business owners but for everyone involved. It can have a negative mental impact and was quite challenging. It felt like all our hard work had come to nothing. It was quite a scary couple of weeks for the region after the hailstorm. However, Birdhurst as a business is very supportive, and we came together and carried on."

It was not an easy time. Covid-19 related border restrictions meant fewer seasonal workers were available to help with the apple harvest."

Even with less fruit to pick we did not have enough staff, but we still managed to get all our fruit harvested."

This was the first season Tam had managed a team and she is proud that her group of 18 pickers harvested 2,450 bins of apples.

Tam believes more flexibility in the workplace could help overcome the shortage of skilled labour in New Zealand that has been highlighted by the pandemic.

"I would love to see more horticultural businesses adapt a flexible approach regarding school-hour requirements for women. There is a wealth of ability, knowledge and passion that is lost or stifled because of the perception that the only way to succeed or progress in horticulture is through the 50+ hour working week. Let us work smarter, not harder."

Tam is the secretary for Grow NZ Women, a local group in the Tasman region that promotes and supports women at all levels of horticulture, providing workshops, tours, mentoring and networking to the local community. Tam is also the president for the Motueka Toastmasters club which enables members to gain skills and confidence in public speaking as well as leadership skills through undertaking different roles within the club.

Tam knew virtually nothing about New Zealand when she left Zimbabwe; now when she is not working, studying, or volunteering, she loves discovering its great outdoors by hiking and continues to explore New Zealand with every chance she gets.





# **ENVIRONMENTAL ADD-ON** ENCOURAGES ONGOING IMPROVEMENT

Words by Kristine Walsh



It is hoped that composting vegetable by-product will provide a better way of minimising synthetic additives while restoring nutrient content to the soil, says LeaderBrand general manager for food safety and quality - Stefan Stewart

After years of working to lighten its environmental footprint, a Gisborne grower and food production company have welcomed the introduction of a tool to measure progress and ensure compliance within a changing regulatory framework.

A year ago, LeaderBrand signed up for the Environmental Management System (EMS) add-on that is designed, certified and audited by NZGAP (New Zealand Good Agricultural Practice).

It is a module already accepted by Environment Canterbury as a stand-in for local body reviews of Farm Environment Plans (FEPs). Gisborne District Council is also seeking to formally recognise the EMS once they have confidence in the audit processes via observations. And that is particularly important in LeaderBrand's home region where, from 1 May 2021, FEPs have been compulsory for any farm that grows annual crops or commercial vegetables, or intensively farms animals.

"Because of the work done looking at our impact on the environment, we were already well underway on our FEP last year when we were introduced to the NZGAP EMS template, and we liked it," says LeaderBrand general manager for food safety and quality, Stefan Stewart, who has worked at LeaderBrand for five years.

"What was particularly attractive was how it lays out your environmental plan, helping you flesh out things you are already doing and laying it out in front of you in a clear and logical manner.

Subscribing to the add-on was not entirely new territory for LeaderBrand, which has for 17 years used the NZGAP GLOBALG.A.P. Equivalent food safety certification system

"Even better, it acknowledges that you aren't going to have all the answers and allows you to outline what your plans for improvement are and what you are doing to achieve those aims.

"It has an approach of continuous improvement rather than looking at your FEP as 'one and done'." Subscribing to the add-on was not entirely new territory for LeaderBrand, which has for 17 years used the NZGAP GLOBALG.A.P. Equivalent food safety certification system.

## 66

While I am working in the processing of food products, I am also heavily involved across the organisation - from growing, food safety and quality control, to overseeing our environmental strategy, along with research and development

That was set up before Stefan's time, so there was already trust in the NZGAP system.

While primarily trained in food technology, Stefan's professional reach meant that he was engaged in helping apply NZGAP's EMS module from the get-go.

"LeaderBrand is a big grower of crops but as a verticallyintegrated 'farm to fork' business, we also need to look at everything from the paddock to packhouses and processing," he says. A UNIQUE ASPECT OF LEADERBRAND'S OPERATION IS THAT, UNLIKE MOST GROWERS, IT PRODUCES VARIETIES LIKE LEAFY GREENS ALL YEAR ROUND



"While I am working in the processing of food products, I am also heavily involved across the organisation – from growing, food safety and quality control, to overseeing our environmental strategy, along with research and development." That means he has been able to get his hands dirty, as LeaderBrand worked to become better corporate – and environmental – citizens.

"The challenge for us early on was that while we were keen to do the work, there were so many unknowns around what environmental compliance would look like," Stefan says.

"As a business, we made the decision to stop focusing on compliance and just look at environmental impacts and opportunities.



## FLAT ROOF SHADE HOUSES

Redpath Greenhouses and Shadehouses, Manufacturing and suppling the industry for over 35years. Designs to suit your business and growing needs from the very large to very small. Designed, Manufactured, Delivered and installed on your site. Council plans and application work included. All buildings provided with manufacturer's warranty and our construction crews are based nationwide for efficient and speedy assembly and after-sales service. Check out our website below for the full range of buildings, greenhouse films and fabrics.

www.redpath.co.nz

FREE PH 0508 733 728





Stefan says cover crops such as this barley, return organic content to the soil while also helping prevent the run-off of both sediment and excess nutrients

That way we could focus on our issues and get the process of addressing them underway. "That decision was driven by our chief executive, Richard Burke, and it was vital to have that enthusiasm coming right from the top."

For LeaderBrand, the process involved putting together a working group to look at growing impacts from the use of soil health nutrients and other inputs to water use, carbon retention, and protecting the health of waterways.

"It's not that we thought we were doing things wrong, but we felt we could definitely be better, and central government is not the only master you are serving ... consumers are always ahead of the game in demanding that their produce comes with as light an impact as possible."

66

The EMS framework involves a grower using the FEP template, and the independent auditor using the EMS audit checklist. This checklist is aligned with the EMS standards, which are benchmarked to regional council requirements, so these parts all come together in one, comprehensive system for farm plans

A unique aspect of LeaderBrand's operation is that, unlike most growers, it produces varieties like leafy greens all year round. Stefan says the biggest challenge there is not compliance, but the climate. "That, along with the scale of our operation and the competition for resources like land, water and labour, can be tricky," he says.

"But to us, it is worth all the effort. Growing vegetables can be challenging but it is what we do, it is who we are." •



Since the 2018 opening of its new offices, LeaderBrand is expanding further. Current projects, including the construction of a large covered-cropping facility, and a new cool store in Gisborne's industrial subdivision

# GOOD FOR US, GOOD FOR THE ENVIRONMENT

LeaderBrand grows at several locations around the country but with Gisborne being its home base, it is by far the biggest, with some 200 paddocks under its stewardship at any one time.

Separate from its industrial subdivision headquarters is a major site at Nelson Road where, as well as paddocks producing mainly leafy greens, it houses a massive nursery, large agri-engineering workshop, and a smart new office facility.

It is all part of an operation that has been the ideal case study for Gisborne District Council (GDC) to use as a measure of how the NZGAP EMS add-on can function in relation to Farm Environment Plans.

"Because of the size and complexity of our operation GDC gets to see a huge number of scenarios that any other grower may be dealing with at any one time," says LeaderBrand general manager for food safety and quality, Stefan Stewart.

Right next door to those smart offices, for example, is a paddock that, in autumn, produced leafy greens which were sent to LeaderBrand's processing facility and bagged for market.

In July, though, it was lush with a cover crop of barley, which Stefan says serves a number of purposes.

"As well as returning organic content to the soil, covercropping helps prevent the run-off of both sediment and excess nutrients," he says.

That is not to say the company will not let nature takes its course. For example, where once the large drains (with their five-metre setbacks) at the Nelson Road property would have been stripped of vegetation, these days weeds are allowed to grow to provide a natural filter and minimise sediment movement.

Over at their covered cropping facility being constructed just a few kilometres away, LeaderBrand has harnessed nature by building a large dam to meet the water needs of what will be some 15 hectares of greenhouses.

Across its operations, LeaderBrand uses new, nonpowered equipment to work the soil which, Stefan says, is a lot gentler on its structure.

And back at the Nelson Road site the company has undertaken a composting trial in an effort to make better use of vegetable by-products - corn cobs, cabbage hearts and the like - that generally goes for cattle feed.

"Providing cattle feed is a good scenario in that there is no waste, but we're hoping this will be a better way of minimising synthetic additives while restoring nutrient content to the soil," Stefan says.

"For us, soil health is number one and looking after it is good for us, it is good for the environment, and it's all part of our ongoing commitment to reducing our environmental impacts."

#### **ABOUT LEADERBRAND**

ESTABLISHED in 1975, the family owned LeaderBrand company operates farms in Canterbury, Matamata and Pukekohe. Its largest farm is in its home territory, Gisborne.

- LeaderBrand grows more than 3,500 hectares worth of fresh produce each year for process, domestic and international customers.
- It employs around 200 permanent staff, with an additional 300 seasonal workers taken on through the summer harvest period.
- The company grows, packs and exports buttercup squash (kabocha); grows, packs and ships broccoli, lettuce and other leafy greens, and fresh sweet corn for the New Zealand market; is a key supplier of process crops such as sweet corn and pumpkins; owns New Zealand's most modern salad production facilities; and is one of Gisborne's largest growers of chardonnay, pinot gris and sauvignon blanc grapes.

## ABOUT THE NZGAP ENVIRONMENT MANAGEMENT SYSTEM ADD-ON

- Farm Environment Plans (FEPs) help growers assess their environmental risks, take action where required, and demonstrate progress on environmental objectives.
- FEPs are not compulsory in many areas but under the 2020 Resource Management Amendment Act, they will eventually be "mandatory and enforceable."
- NZGAP is working with councils around the country to have its Environmental Management System (EMS) add-on approved as a pathway for growers to develop and implement their FEP.
- The NZGAP programme covers risk assessment and good practices to manage resources, including protection and sustainable use of land and water; responsible use of agrichemicals and fertilisers; waste management; biodiversity; and waste, emissions and energy.

# **PIRONGIA MOUNTAIN INFLUENCES** WEATHER AND BRANDING

Words by Elaine Fisher



Tony Cato's market garden lies in the hinterland of Mount Pirongia in the Waipa District

## Pastoral farming is the norm in the Waipa district, but on a peninsula of land embraced on three sides by a loop in the Waipa River, there is a thriving market garden.

It's not surprising that Pirongia Mountain Vegetables is the only commercial vegetable grower in the area, for the founding Cato family has a history of diversification.

Richard and Judy Cato began growing cut flowers commercially in 1986 as part of their sheep and beef cattle farm at Te Kuiti in the King Country. In 1988, the family moved to the Waikato and continued growing and exporting flowers to all parts of the world.



95% OF TONY'S INCOME COMES FROM FARMERS' MARKETS, WHICH WERE CLOSED DURING COVID-19 In 2001, they began growing garlic and then potatoes, selling their produce under the name Cato's Potatoes and Garlic from a small stall in the driveway of their Kaipaki property, and at Farmers' Markets in Hamilton and Cambridge.

Six years ago, their son Tony, previously a mechanic, engineer and builder, joined the business in a part-time financial role, deciding two years ago to take over 100% of the enterprise.

Tony, who lives in Pirongia township, rebranded the business as Pirongia Mountain Vegetables to reflect the range of produce grown, and the importance of 962-metre Mount Pirongia, which lies to the west of the town.

"The mountain is pretty important to our image and marketing. It also influences our weather. We get more rainfall here than other parts of the region," says Tony, who grows a wide range of vegetables on 3ha of leased land close to the small settlement of Pirongia.

It was the quality of the volcanic and river silt soils in the area and the climate, which convinced Tony that market gardening was possible, but it took a leap of faith to leave his building career and commit full-time to growing.

His faith was sorely tested when New Zealand went into lockdown in March 2020 as a result of Covid-19. Farmers' Markets, accounting for up to 95% of Tony's income, were closed. "Fortunately, we didn't have a lot of debt, but all our crops were just coming on in March and April, as I grow brassicas for the seasonal shoulders when they are otherwise in short supply. We did think we were in all sorts of trouble though."

## 66 The mountain is pretty important to our image and marketing. It also influences our weather

To keep the operation afloat, Tony promoted online sales and home deliveries. While these were solutions that kept the business turning over, they in no way made up for the loss of the Farmers' Market outlets.

"We didn't have a lot of waste because what we couldn't sell, we gave to the Salvation Army."

Tony grew up on a farm at a time when chemical sprays and fertilisers were widely used on pastures that fed stock and the soil that grew vegetables. However, when it came to vegetable growing, the Cato family decided there had to be a better way. The stimulation for change came from Richard attending seminars on healthy soils promoting healthy crops.



Tony lifts from the soil White Beauty potatoes planted in November and ready for harvesting in June

"We don't use any sprays or force our vegetables. We don't grow great big broccoli or cauliflowers, but what we do grow is nutritious vegetables which taste great and keep well," says Tony.





THE BEST FROM **EVERY HARVEST** wymasolutions.com

**New Zealand T:** +64 3 344 6403 **F:** +64 3 344 6407

#### Australia

T: +61 400 577 921 **F:** +61 3 5831 1038 sales@wymasolutions.com au.sales@wymasolutions.com



Tony's tractor-drawn cultivator is among the equipment which helps him work smarter

The lack of uniformity in the size of the produce means Tony has vegetables big enough to feed larger families, and smaller vegetables that better cater for a person living on their own.

Cabbages, however, do grow to a bigger size. Alongside the conventional cabbages, savoy, napa and red cabbage, Tony also grows the petite Starbright cabbage, ideal for clients who want something smaller.



## Richard and Judy Cato began growing cut flowers commercially in 1986 as part of their sheep and beef cattle farm at Te Kuiti in the King Country

His garlic and cabbages are also in demand from Marea Verry of GoodBugs Hamilton, who uses them to make a range of naturally fermented sauerkraut and kimchi products that are sold online and at Farmers' Markets.

Tony also supplies cafés and bulk purchasers, but the Tauranga, Hamilton and Cambridge Farmers' Markets remain his primary outlets. Tony has a stall at the Tauranga market each Saturday and his father Richard sells their produce at the Hamilton and Cambridge markets, where his skill at braiding garlic entertains customers.

"Dad is really good at braiding garlic, which is very popular as it keeps for a long time. We are growing more soft neck garlic to meet that demand."

The land Tony leases to grow his vegetables has two distinct soil types - rich volcanic soil on the upper level, and river silt lower down.



This carousel seedling planter has been adapted by Tony to plant a variety of vegetables

"The river silt grows great vegetables but has less organic matter than the volcanic soils, although that's improved during the time I've been working it," he says. "It also dries out more quickly in summer."

Tony applies compost, seaweed-based fertiliser, boron, and potash to the soil in which he grows broccoli, cabbages, cauliflower, leeks, pumpkin, silverbeet, kumara, lettuce, six varieties of garlic, and five different types of potatoes.

Crop rotation is generally potatoes, garlic and then leafy vegetables, returning the land to pasture or another green crop before beginning the rotation again. Weeds are controlled by mechanical cultivation between the rows when leafy vegetables are young.

"As they get bigger the dense planting keeps the weeds down," Tony explains.

Brassicas are harvested by Tony, knife in hand, filling strategically placed bins, and he has a large harvester with a 3.5 tonne hopper capable of handling his entire potato crop in one go

Every second Tuesday Tony and a staff member plant 4,400 seedlings, grown specifically for him by a local nursery.

"We keep the plants on site for two weeks to acclimatise and treat them with a fish solution before planting out."

Planting is semi-automated, using a tractor-drawn carousel planting machine,



As well as being good sellers at Farmers' Markets, cabbages and garlic grown at Pirongia Mountain Vegetables are in demand from processors

but Tony hopes to buy an automatic planter next year to enable the size of the gardens to increase.

Insect pests, white butterfly in particular, are controlled not by insecticides but by covering young plants with fine netting during the height of the pest season.

Six different varieties of garlic are grown, this season on the higher part of the block in the volcanic soils.

"Garlic is hard to grow, and I nearly gave up," says Tony. "However, I have found planting earlier than normal gets the garlic established which seems to help at the end of the season as if they do get rust then, it does not affect the plants so much."

# We don't use any sprays or force our vegetables

While tradition has it that garlic should be planted on the shortest day - July 20 - Tony had early Italian varieties in the ground by the second week of April. Garlic is sprayed on a regular basis with a seaweed product which seems to offer protection against fungal rust.

Each season Tony sends samples of his strongest tasting garlic, the Spanish Roja variety, to the United Kingdom for testing of its allicin levels. "The allicin levels indicate its antibacterial properties and this variety is high in that."

Brassicas are harvested by Tony, knife in hand, filling strategically placed bins, and he has a large harvester with a 3.5 tonne hopper capable of handling his entire potato crop in one go.

Even so, the potatoes are harvested in succession as they mature.

A crop of White Beauty planted in November was ready for harvesting in June.

While Tony knew during the tough months of Covid-19 alert level changes, that he could pick up a spanner or nail gun and find other work, he didn't want to return to his previous jobs.

"I really like growing vegetables, and in particular love being on this block of land, with the river here."

He also enjoys having the flexibility to spend time with his young family, using his engineering and mechanical skills to adapt equipment for vegetable growing, meeting customers at markets and the satisfaction of growing healthy, nutritious food. ●



Every two weeks Tony and a staff member plant 4,400 seedlings in the gardens at Pirongia Mountain Vegetables







Words by Dan Bloomer and Luke Posthuma





The rise in herbicide resistance and consumer's desire for reduced chemical use is driving development of alternatives such as electric weeding

## What are the future challenges to our primary industry and where might they come from?

That was the question posed by Jamie Blennerhassett at the opening of this year's Working Smarter LandWISE Conference. The Ballance Agri-Nutrients Innovation Leader was looking at the opportunity to get ahead of those challenges so that we not only survive as an industry but thrive.

Noting the impending catastrophe of climate change, the ongoing decline of our freshwater resources and reporting on regulatory reform, Jamie asked if any of it should have been a surprise. In short, he said the answer was no.

"We have been aware of declining water quality and a changing climate from human caused greenhouse gas emissions for well over 20 years, as firstly scientists, then environmentalists and lastly the wider public, sounded alarm bells and raised concerns around human caused impacts on the environment," Jamie said. "The resulting outcome in the shape of regulatory change was inevitable as the voice of the people took effect." By looking to science, we will allow ourselves early insights into the next consumer trends, he said. It gives us a chance to get ahead of the curve in the premium end of the market by setting up our farming systems to solve these problems. Not only will this allow us to win in the marketplace, it will place us well for the next wave of regulatory change that will follow shortly behind consumer demands as they then turn into the voice of the people at the ballot box.

66

## We have been aware of declining water quality and a changing climate from human caused greenhouse gas emissions for well over 20 years

Similarly, Woodhaven Gardens' Jay Clarke told delegates, "If you make sure you are meeting the expectations of your community and markets, you'll be ahead of regulations. If you try to just meet regulations, you'll always be behind".



New technologies were a large part of the LandWISE conference, generating considerable interest among growers, researchers and industry

Woodhaven Gardens consulted widely with neighbours, iwi, markets, councils, and other stakeholders to fully understand how they were perceived and what they should be doing. Those conversations have guided Woodhaven's actions over recent years, resulting in significant gains. Wide, grassed headlands, grassed irrigation runs, very intensive use of soil sampling for nitrates and use of cover crops, are just some of the tools retaining soil and nutrients to benefit the farm – and the environment.

66

## Growers were quick to change when they had easy access to good information on which to make decisions

Jay was presented with the LandWISE Sustainability Award at the conference in recognition of the achievements he, LandWISE staff and fellow directors John Clarke and Emma Clarke, have made. Under the Future Proofing Vegetable Production project, LandWISE has been working in Gisborne and Levin to help growers better manage nitrogen. Through the project, the LandWISE team has worked one-on-one with growers, finding information, understanding how it might fit into growers' overall farming and management, and conducting small trials to test things together. Growers were quick to change when they had easy access to good information on which to make decisions. But they needed to understand how it applied on their farm, to their crops with their equipment. Every grower and farm is unique, and there is no one-size-fits-all solution.

The LandWISE 2021 Conference was well attended, with a greater level of interaction between growers, researchers and wider industry following the cancellation of the 2020 event.

Visit **www.landwise.org.nz** for more information and to keep up to date with details on next year's conference.



# **CALIBRE OF NEW LEADERS** ASSURES INDUSTRY'S FUTURE

Words by Elaine Fisher



Mike Smith and his dog Molly on the avocado orchard at Te Puna

## Horticulture New Zealand's future is in good hands thanks to talented young people taking up leadership roles, says retiring HortNZ board director Mike Smith.

"The calibre of people coming through the HortNZ Future Directors programme and the HortNZ Leadership Training programme is very heartening," says Mike who has stepped down after six years as a director.

"Succession planning is so important and bringing in people as associate directors or through the Future Directors programme is very valuable as it gives prospective directors a taste of what HortNZ is all about.

"As an example, new directors Kate Trufitt and Brydon Nisbet have been elected after being future directors, and recently Jamie Mountier has been appointed a future director to the board."

Mike can take some of the credit for encouraging new blood in leadership roles. Before being elected to the board he was invited to be part of a working group to review the structure and constitution of HortNZ, including the length of time members could stay on its board.

"The outcome was that a director could not serve more than three terms of three years each without standing down. That has worked well in bringing in new directors, and helped to open up opportunities for more diversity on the board by encouraging people to stand for an empty seat rather than against an incumbent."

Under those rules Mike could have stood for another term. Instead, he decided it was time to retire, and the calibre of those coming through was part of the reason. Putting himself forward for election to the board in 2015 was part of Mike's philosophy of giving back.

"If you want to be part of an industry, I think it's important to give back because an industry doesn't work by itself. It needs people at all levels."

Despite holding several leadership roles within the kiwifruit industry, it was taking part in the HortNZ Leadership Training programme for emerging potential or current leaders in the fruit and vegetable industry, co-ordinated by Sue Pickering, which gave Mike the confidence to step up to a national leadership role and stand for election to the HortNZ board.

It's a pathway he strongly recommends to anyone with a desire to take on leadership roles. "Leadership is not for everybody but if you feel you have the skills to do it, there is a lot of support and training to get there," Mike says.

Serving on the HortNZ board has been enjoyable, challenging and a real eye opener for Mike, whose horticultural career has been almost exclusively involved in kiwifruit.

## **GG** The culture around the board table has been outstanding

"The culture around the board table has been outstanding. In no small way due to having two very capable chairs, and board members both past and present who all have had the growers' best interests at heart.

"I had not realised how diverse the industry is, nor the scale of some of the very big vegetable growing operations. There are really good people doing some great work for the industry and their communities, offering local jobs and long-term employment. The opportunities for careers in horticulture are almost unlimited with more and more tech coming through." Since 2015 Mike has been a trustee for Agrecovery, the notfor-profit rural recycling initiative for collection and recycling of used chemical containers and other rural waste streams. It is a role he's very committed to.

"The government has just made farm plastic a priority for recycling, and it will be compulsory to have a recycling scheme, but as yet it is not compulsory to recycle.

The problem is that with materials which are not easy to recycle such as silage wrap, currently farmers have to pay for a collection scheme. For some that extra expense can be hard to justify so it's easier to burn or bury it. However, the time is coming, including with farm environment plans, when that will no longer be possible.

"Currently about 60% of recyclable plastic chemical containers purchased are recycled through Agrecovery, but that doesn't account for products which are held in stock or not yet used by farmers and growers. I think the best option to increase recycling on-farm is using the Agrecovery model where the cost of recycling or recovery is included in the purchase price."

While Mike has stood down from the HortNZ Board, he remains a member of the New Zealand Kiwifruit Growers Inc Forum, a position he has held since he joined as a Tauranga Growers and Green Growers Representative in 2004. Among his portfolios is being on the committee for the Bay of Plenty Young Fruit Grower of the Year Competition through which he is a strong advocate for the development of young growers.

Currently about 60% of recyclable plastic chemical containers purchased are recycled through Agrecovery, but that doesn't account for products which are held in stock or not yet used by farmers and growers

Mike grew up on a dairy farm at Welcome Bay near Tauranga and attended Tauranga Boys' College. His first full time job was as a laboratory technician at the then Te Puke Dairy Factory, followed by three years dairy farming in the Waikato while his wife Sharlene Darragh completed an accountancy degree at Waikato University.

Back in the Bay of Plenty, Mike worked for Wrightsons in Tauranga and Te Puke for 12 years. He and Sharlene bought their first kiwifruit orchard at Te Puna in 1987.

## We *know* horticulture

Collaborating, innovating and supporting New Zealand growers

For regular product updates and technical news, visit fruitfedsupplies.co.nz and sign up to the Fruitfed Supplies e-newsletter.

fruitfedsupplies.co.nz

## **Fruitfed Supplies**

A trading division of PGG Wrightson Ltd



A regenerating wetland, converted back from grazing, is a feature of the new orchard which Mike takes pride in

"We then found another block of land at Plummers Point we wanted to buy, but at the time kiwifruit orchards were worth nothing, in fact the land was worth more without kiwifruit on it, so we converted the orchard to citrus in order to sell it."

The Plummers Point orchard was sold in 2000 when Sharlene began her own accountancy business and Mike took over management of his parents' kiwifruit orchard which was converted from dairying in 1980. Initially a green orchard, the 5.5ha block today grows gold and green.

In 2002, Mike became chair of the Green Growers Association, representing the views of growers of green kiwifruit, who at the time accounted for 70% of the industry's production.

## **56** Succession planning is so important

"The association was formed when Zespri proposed a subsidy for growers of organic green kiwifruit, to be paid from the green growers' pool. Many growers felt that was not right and everyone should stand on their own two feet. In the end, Zespri decided to set up an organic pool."

The Green Growers Association was disbanded in 2017. "It had, in effect, run out of purpose because things for green growers have improved and there is not much to complain about. Zespri has done well in selling green fruit, and orchard gate returns, especially for orchards with above average production, are good."

Last year gold kiwifruit export volumes overtook green for the first time in the industry's history.

For ten seasons Mike carried out an important and unusual role for the kiwifruit industry - monitoring the storage

temperatures and conditioning of export fruit travelling to market aboard refrigerated vessels.

Voyages to Japan took around 12 to 13 days. To China it was 20 days, and via the Suez or Panama Canals, 28 to 30 days to Europe.

"I did one or two trips a year and they were great experiences, working with people whose language I could hardly speak, but they were good guys who wanted to make sure I was happy and looked after. Sometimes the sea was rough and if it was too bad you didn't go into the hold. Mostly I enjoyed the trips, but sometimes said I'd never do it again - until the next time."

Mike says the issues facing horticulture are pretty much the same as they have always been. "The weather, access to land, labour, water, capital (although money seems to be flying in at the moment) and biosecurity are constant challenges."

Unexpected issues can arise which have significant impact on growers' incomes, including Covid-19 and the lack of labour due to border restrictions.

"What happened in Hawke's Bay with apples not being harvested this season was devastating and such a waste of fruit, income, and export earnings for New Zealand too."

But dealing with the unexpected is in fact an expected part of horticulture, as Mike has learned from 23 years of orcharding.

"You have to be an optimist in this industry, with the belief that next season will be better. My grandfather, who was a farmer, said in five years you should expect one very good year, one bad year and three somewhere in between."

Mike's next challenge is rejuvenating an established avocado orchard he and Sharlene have taken over just north of Tauranga where they plan to build a new home.

# Elevate their career today

## **NEW ZEALAND CERTIFICATE IN DISTRIBUTION – LEVEL 3 & LEVEL 4**

It is no secret that our primary industries are booming – and smart and innovative teams are essential to meet the needs of the future.

This growth has created demand for specific primary industry distribution qualifications, and Primary ITO has listened and developed a new suite of products to meet industry needs.

The learning outcomes and selection of unit standards are varied and align to business and individual role requirements in a distribution environment.

NZ Certificate in Distribution (Level 3) is suitable for your team members working in roles such as Forklift Operators; Storeperson; Warehouse Operators; or Distribution Assistants.

NZ Certificate in Distribution (Level 4) offers career progression into roles such as Warehouse/Distribution Team Leads and Supervisors.

By investing in your team and offering these new qualifications, you can:

- Reward your team for their hard work as part of their in-house learning and development opportunities.
- Increase their confidence (resulting in less supervision).
- Move your skilled team members into leadership positions.
- Set the standard to deliver business excellence within your distribution centre/warehousing environment.

For more information on these exciting new qualifications and how they can fit into your business, contact your local horticulture **Training Adviser on 0800 20 80 20, or visit www.primaryito.ac.nz** 





Words by Helena O'Neill



Dale and Hannah Jordan bought Saddleview Greens nine years ago and now grow hydroponic lettuce, spinach and kale for the local market

## The move to horticulture nearly a decade ago has given an Otago couple new opportunities and challenges.

Dale and Hannah Jordan bought Saddleview Greens nine years ago, growing hydroponic lettuce, spinach and kale for the local market.

"This place popped up ... we hummed and hawed for about a year and decided to jump in. We're a lot better off now, being able to tend to the kids as we work from home," Dale says.

The couple had never before worked in horticulture or hydroponics, so it was a big move to take over the operation at Wingatui, near Dunedin.

"I knew nothing about hydroponics at all, let alone lettuce, when we bought the place. It's been a big learning curve."

In peak season the Jordans grow green frilly, red frilly, red oak, cos and butterhead lettuces. In the cooler months, the business grows green frilly, cos and red oak lettuces, with the latter mostly used for the mixed salad bags.

"The cos can be quite popular, although we can't grow it very big this time of year. The beauty of hydroponic lettuces is that they're very clean. You can use every leaf off the lettuce, and I think people like that, especially this time of year." They also grow one variety each of spinach and kale all year round.

Spinach and kale have grown in popularity over the years, with orders between five to 10 crates a week when they first took over the business, rocketing to between 20 and 30 crates a day.

"It [spinach] grows really, really fast in the summer. With the speed of growth being so fast it doesn't have a long shelf-life."

The business supplies MG Marketing and restaurants through Dunedin-based Kaan's Catering Supplies, along with their local supermarket Mosgiel New World.

One of the major challenges facing the business this year has been the low sunshine hours.

"It's really hard to get it right."

"We did throw a lot of lettuce out last year. We're going to be a bit more organised next year because we have a bit more authority on how our seedlings get planted by Zealandia in Christchurch. We know what the delivery date is going to be now, so we can be better organised about what's coming."

"I've been of the opinion that it's much better to have too much than not enough, and if I end up throwing things out then that's just part and parcel of how it works. During spring and summer, the growth is really fast and sometimes the market is not going as fast as it could be. You end up throwing stuff out."

While last year's lockdown and Covid-19 restrictions negatively impacted sales, it was also a chance to slow down and have a good look at the business, Dale says. A run of fine weather during lockdown was a bonus too.

"The sales we were making during that three or four-month period were almost not viable for us to stay open. We did get that wage subsidy from the government, and I took it as a time to chill out a wee bit and didn't feel a pressure to perform every day."

"We were locked down in April and May – normally our two busiest months of the year. During spring, there was no tourism happening and the restaurant market was dead, so we were still throwing stuff out right up to the week before Easter."



## One of the major challenges facing the business this year has been the low sunshine hours

"It was about two benches a day for three or four months. It was a lot of lettuce."

The latest government plans to phase out fruit stickers by 2023, introduce the Clean Car Discount scheme (the ute tax), and implement three sets of legislation to replace the Resource Management Act (RMA), is all adding to the mounting pressure on industry.

"It's getting harder and harder every year to grow. The government is putting a lot of pressure on farmers and growers of all kinds."

"Even with the wage increases every year for the last three years, all our suppliers within a week of it happening have emailed us saying that their costs are going up. Our wage costs have gone up also, but I can't just jump on the bandwagon and say 'right, that's it, our lettuces are \$3.50 now.' People wouldn't buy them, they're just not a necessity."

"We have to try and wear it from both sides. The profit is getting less and less every year."

Hannah, who deals with the administration side of things, says that as a small grower, the required compliance is huge.

"We are audited the same way a large grower is. Compliance can take a large amount of time to complete, and we have just five staff," Hannah says.

While unsure how the government can reduce the pressure and costs associated with compliance, Hannah and Dale say something needs to change.



## Across industries and applications, we design specialised solutions.

Bringing together leading brands in weighing and packaging equipment for the food industry. Our solutions set the standard for yield, efficiency, and safety across a wide range of industries. Whatever your product needs, we can meet it with precision and passion.



info@heatandcontrol.com | heatandcontrol.com

# **INDUSTRY SOLUTIONS SOUGHT** FOR FARM ENVIRONMENTAL MANAGEMENT PLANS

Words by Rose Mannering

Empowering growers to complete their own Farm Environmental Management Plan (FEMP) through an industry assurance plan has been welcomed by Hawke's Bay growers and regulators.

Apatu Farms and Mr Apple took part in a NZGAP Environmental Management System (EMS) add-on as their farm plan solution. Apatu general manager Tim Agnew says going through the EMS self-assessment showed they were already meeting criteria. He welcomes the move to have an industry-wide system to reduce the cost of compliance.

Apatu Farms were assisted through the process by Agrilink, which was a great way to start, he says. Using the NZGAP add-on will reduce duplication of the same information in multiple places. Meeting criteria on soil erosion and sediment loss was made easier by the fact most of the Apatu cropping land is flat, and they had already been accustomed to levelling paddocks and changing the contour to prevent pooling.

"It includes practices to manage higher risk activities such as cultivating on slopes in the likes of Pukekohe. With flat paddocks it is easier to answer everything on soil erosion," he says. Also, Apatu crop less in the winter, onions are their only winter crop, and meeting criteria is more difficult with winter crops.

Developing wetlands and riparian plantings was already underway on their properties.

The pilot programme is timely, with the government releasing its consultation document for freshwater farm plans and stock exclusion low slope maps in July. Growers and farmers are invited to provide their practical ideas to develop high-quality and workable freshwater farm plans. Growers have until **September 12** to comment on the consultation document released by Minister of Agriculture Damien O'Connor and Minister for the Environment David Parker.

Hawke's Bay growers have had some experience with Farm Environmental Management Plans (FEMP) required in the Tukituki catchment since 2018. These Plans need to be revised every three years, so the first revision date was May 2021.

Hawke's Bay Regional Council manager – catchments policy implementation, Brendan Powell, says in 2018 their focus was getting the message out for people to have a FEMP, and that was achieved. "The point of doing them is for people to identify the environmental risks on-farm and have a plan to manage those risks," he says.

Ultimately that targeted collective action would improve water quality. To get those results for the catchment, the plans need to identify the right issues and be actively used and engaged with. "We know that FEMPs have improved baseline practices across farms in Tukituki; an example is the better winter grazing practices in the last couple of years."

Auditing the farm plans is the next important step and will be rolled out by the council in the next year.



## Farm plans will be a national requirement for pastoral and arable farms over 20 hectares, and for horticulture over five hectares

## NZGAP EMS

Farm plans will be a national requirement for pastoral and arable farms over 20 hectares, and for horticulture over five hectares. More detailed timelines, regulations, and design of how this will work are being developed, this is part of the reason for the consultation document. "A common message we hear from landowners is the desire to reduce duplication," he says. Industry assurance programmes like the EMS can be recognised and adapted to meet the requirements of a FEMP.

NZGAP manager Damien Farrelly says the add-on began as an environmental component to add onto the existing food safety aspects of NZGAP, and lately the scope has been expanded to cover the Farm Envionmental Management Plans. The programme began operating in the Canterbury region, working with growers to find solutions to fit requirements from Environment Canterbury. It was formally recognised by Environment Canterbury in 2019. Damien expects to see a national system, with specific regional guidelines in the future. In Hawke's Bay, sensitive catchments like the Tukituki would require specific rules. NZGAP is already working on the roll-out of the other catchments in Hawke's Bay under the TANK framework (Tūtaekurī, Ahuriri, Ngaruroro, Karamū water catchments).

66

## The cost of the add-on will be between \$450 and \$650 a year, which includes a basic system, auditing and basic mapping

Waikato will also require different FEMPs in different catchments, and NZGAP has already been working with Horizons in the Manawatu. "In general, the system meets FEMP criteria; our current focus is recognition with government, then aligning with local requirements." It is unclear what mechanisms are to be used to meet regional requirements.

The cost of the add-on will be between \$450 and \$650 a year, which includes a basic system, auditing and basic mapping. It would require updating on an annual basis. Audit frequency could vary from annually to every three years. The system is clear cut, Damien says the grower either meets the standard and receives a 'pass', or if not, they would have to make corrective actions otherwise they could be discontinued from the programme.

The NZGAP EMS system encompasses a number of elements including EMS guidelines, property maps, the farm environment plan (FEP), environmental risk assessments, guidelines for good and best management practices, compliance criteria, and the grower/third-party auditor checklist.

#### **Freshwater Farm Plans**

Government Ministers are seeking comment on a new, more accurate mapping approach for stock exclusion that better reflects what farmers see on-the-ground.

These are part of the government's Essential Freshwater package. Public consultation with farmers, agricultural sector groups, iwi and Māori, councils, and environmental groups will run from **26 July to 12 September**.

"I want to thank industry organisations for their input so far, which has improved on original proposals. There are many farmers and growers already committed to practices to improve water quality and it's vital they have their say and contribute to this consultation," Damien O'Connor said. "Taking a farm planning approach is a flexible alternative. It also provides farmers a visible way of showing their sustainability credentials to the markets we sell into, which will help boost value growth."

David Parker said improving freshwater quality is important to all New Zealanders.

"High-quality freshwater farm plans will provide a practical way for farmers to meet the freshwater standards the government introduced last year, while helping councils play their part.

"Everybody's feedback will be carefully considered, and we expect the outcome to be released later this year."

"Working together and getting good ideas from this consultation is important, and that's why I encourage people to have their say. We believe a significant improvement in freshwater quality is achievable in five years - and we can have healthy waterways within a generation," David Parker said.

Damien O'Connor said feedback is being sought on the content of freshwater farm plans, what outcomes could be achieved, and how plans could be certified, audited and amended.

"We will also be asking about the balance between using the low slope map and freshwater farm plans for identifying areas for stock exclusion.

"The government is listening to, and helping farmers and growers, as shown already by our work with the sector on He Waka Eke Noa, integrated farm planning and ensuring farmers are using the best practices for intensive winter grazing. This approach and these initiatives are fundamental to our Fit For A Better World roadmap," Damien O'Connor said.

David Parker said the government will soon release a review of whether the nutrient management tool, Overseer, will be useful in the long-term. An earlier report by the Parliamentary Commissioner for the Environment called for a re-evaluation of Overseer.

"We're committed to ensuring we have the right settings and tools in place to lift freshwater quality and help people achieve that goal," David Parker said. ●

The discussion document is now available on the Ministry for the Environment and the Ministry for Primary Industries websites. The online submission forms will be available when the consultation opens in the **week of 26 July**, on the Ministry for the Environment's website in the 'have your say' section.

https://www.beehive.govt.nz/release/governmentconsults-freshwater-farm-plan

# TECHNICAL

THE LATEST INNOVATIONS AND IMPROVEMENTS



# **LINKING BIOLOGY** AND TECHNOLOGY FOR FOOD PRODUCTION



Words by Prue Scott



Dr Paul Johnston is science group leader of field crops at Plant & Food Research Ltd

## Hydroponics took Dr Paul Johnstone's fancy at high school. How could plants really grow in water? He went on to study horticulture at Massey University where he gained his PhD and then spent five years in California undertaking research for the vegetable industry.

"My studies gave me a great appreciation of underlying plant physiology and critical scientific processes. But I quickly realised I was drawn to how we could apply knowledge to create value for growers and in doing so promote practices that addressed important environmental challenges," says Paul, who leads Plant & Food Research's Cropping Systems & Environment science group.

The group's expertise covers environmental impacts, land use, climate change, systems modelling and soil and plant science.

"My own background is vegetables, but I've worked a lot with arable and forage crops too and looking at a diverse range of science including nutrient and water management, crop physiology, land use and soil health, environmental impacts and climate change. I'm a generalist who becomes quite excited about possibilities for R&D and seeing our science being applied in practice."

That leads to digital horticulture. "We're really interested in the role digital technologies can play in transforming food systems. Some of our work is linking plant and soil sensors to grow crops more precisely. This makes sure that plants receive the inputs they need to grow best, and at the same time, reduce unnecessary costs for growers and minimise potential impacts on the environment.

66

My own background is vegetables, but I've worked a lot with arable and forage crops too and looking at a diverse range of science including nutrient and water management, crop physiology, land use and soil health, environmental impacts and climate change

"We're also starting on a major new initiative to build 'digital twins' or virtual models, of our production systems and supply chains so we can consider the impacts of future changes on important productivity, quality and sustainability outcomes. By working virtually first, we can speed up and de-risk our research. This work will provide better insights to help our industries respond to major issues such as climate change, greenhouse gas emissions and freshwater reform," he says.

Paul works closely with industry. One recent example he cites was working with other researchers and a major vegetable processor as they rapidly scaled up beetroot production in the Hawke's Bay. "This put real pressure on the company to consistently produce the right amounts of right-sized beetroot at the right time to feed the factory and meet market demand for different product ranges."

Working in partnership, a new tool was created that helped crop managers and growers understand the impacts of variety and time of planting on beetroot size and factory scheduling, and to assist in the management of nutrients to optimise productivity and quality.

# **ENHANCING CROP PRODUCTIVITY** WITH BIOCHAR TECHNOLOGY

Words by Neha Jha (Massey University), Jessica Lunsford (Lincoln University), Nick Roskruge (Massey University), Leo Condron (Lincoln University), Marta Camps (Massey University) and Sally Anderson (Onions NZ)



Biochar is charcoal that is produced by pyrolysis of biomass in the absence of oxygen. It is used as a soil ameliorant for both carbon sequestration and soil health benefits

## Soil scientists from Massey and Lincoln Universities are collaborating with Onions New Zealand to enhance crop productivity in the Pukekohe region.

Soils of the Pukekohe region are considered highly versatile 'high-class soils' for growing a wide range of crops due to their fertility properties, combined with favourable climatic conditions for year-round supply. The Pukekohe region is a hub to essential transport routes, supplying vegetables to Auckland, the largest and fastestgrowing region. Onions are the highest vegetable export earner for New Zealand, and the demand is increasing each year. Preservation and enhancement of high-class soils is critical for future farming in this region, given the land use capability of these soils and the increase in production volume.

Driven by the pressures of urban expansion and the reduction of available prime growing land, intensification of farming practices has increased in the region. Intensification increases the potential to reduce crop performance, in addition to diminishing soil and water quality. One of the key indicators of soil quality is the organic carbon content of the soil. Soil organic carbon is critical in the provision of several soil functions: biomass and food production, maintaining soil biodiversity, carbon sequestration, nutrient storage and cycling, and water filtration and transformation. Intensification of crop production has led to a drop in soil organic carbon stocks in Pukekohe soils (from around 55-65 g C kg<sup>-1</sup> to 15-20 g C kg<sup>-1</sup>) after 60 to 80 years. Consequently, there is a rising interest in improving soil organic carbon stocks for agricultural and horticultural soils.

# **On**ions are the highest vegetable export earner for New Zealand

Sustainable soil management practices can reverse the impacts of soil organic carbon losses. Biochar amendments are proposed as an innovative technology for achieving multiple sustainable soil use and management goals. Biochar is a charcoal-like product produced when waste biomass has undergone thermal treatment with little or no oxygen - a process termed pyrolysis. The conversion of biomass into biochar rapidly locks up a fraction of the carbon present in the original feedstock into a form of carbon that can remain in soils for hundreds to thousands of years. Converting biomass into biochar can sequester atmospheric carbon in terrestrial systems to offset



Patumahoe Silt Loam. Picture credit: MWLR Soils Portal

greenhouse gas emissions and mitigate climate change. Biochar is known as a Negative Emission Technology (NET), proposed by the Intergovernmental Panel on Climate Change (IPCC) and the National Academy of Sciences as one of the methods that can be used to reverse climate change.

The global research on the agronomical benefits of biochar use over the last decade is compelling. The use of biochar in soils frequently demonstrates increases in water and nutrient retention, infiltration, reduced contamination, increased yields, enhanced soil microbiology, improved disease resistance, and improved overall soil quality. Even though biochar has been extensively researched as a soil additive in New Zealand for over a decade, very little experimental or developmental fieldwork has been conducted to demonstrate the use of biochar within horticultural systems. The teams at Massey and Lincoln are working towards validating the claimed benefits of adding biochar to soils under intensive cultivation. The Biochar project started in April 2021 and aims to investigate the influence of two biochars in a Pukekohe soil (Patumahoe clay loam) on the production of onions, with oat and mustard (black and caliente) cover crops. Specifically, the research team will investigate the effects of biochar on (i) soil physical, chemical and biological properties and (ii) crop yield and quality in glasshouse experiments carried out at both Lincoln (LU) and Massey (MU) campuses. Two Patumahoe soils under two different rotation intensities (low versus high) were brought to Massey and Lincoln facilities for glasshouse experiments.

Two biochars will be investigated in this study: biochar from a boiler - referred to as high carbon boiler ash (HCBA) - and biochar produced from willow wood at a low pyrolysis temperature (ca. 350°C). Two other organic amendments are included as positive controls, from residues commonly added to Pukekohe soils (plant waste and compost). During the first two months of the project, the team has been involved in testing the soil, biochar and organic amendments to be used in the experiments. Onions have been sown in the glasshouse which will be ready to be transplanted in their respective treatments in the next few weeks.

Onions New Zealand supports the research and the activities of the two teams. MSc student (LU), Jessica Lunsford, is funded through an Onions NZ scholarship. Postdoctoral researcher (MU), Neha Jha, is involved in the project ensuring the development of capability, along with Professor Leo Condron (LU), Associate Professor Nick Roskruge (MU), and Adjunct Professor Marta Camps-Arbestain (MU). The teams at Massey and Lincoln look forward to delivering results to Onions NZ at the end of this year, with the intention of providing a tool for growers to improve production and environmental outcomes.

## Revitalise your soil

Introducing Calciprill, a high performance lime prill that acts quickly to adjust pH and optimise crop and pasture growth.

For more information visit revital.co.nz/project/calciprill





Elenka Nikoloff REVITAL FERTILISERS 021 595 311 | elenka@revital.co.nz www.revital.co.nz

# FUTURE PROOFING VEGETABLE PRODUCTION







Words by Dan Bloomer and Luke Posthuma



Taking a fully representative soil sample is the first step in determining nutrient requirements and justifying fertiliser application rates

## LandWISE has been playing its part in the sustainability space through the MPI Sustainable Farming Fund project – *Future Proofing Vegetable Production*.

Built around four key principles; precision prescription, precision application, maximum retention, and effective mitigation; the project has seen tremendous change to on-farm practices that are contributing to nitrate-loss reduction.

The LandWISE team puts this down to intensive engagement with growers who were keen to demonstrate that they follow best practice. Workshops and field walks are important for raising awareness, and as a place for interaction. But LandWISE observed greater change when engaging one-on-one with growers to understand their goals, their farm, equipment, resources, and knowledge base. In doing so, we could offer more appropriate suggestions. In many cases, growers knew the answers to their own questions but appreciated the support and extra confidence to make changes. The LandWISE team identified resources and gaps, and created simple, easy to use tools to help decision making and provide documented evidence that can be used as part of industry and government reporting.

## **Precision Prescription:**

Precision prescription is a principle based on determining the right amount of supplementary nutrient for any crop. Growers were not using existing resources such as the *Nitrate Quick Test, FAR Quick Test Mass Balance Tool or Nutrient Guidelines for Vegetable Crops* book. The *LandWISE Nutrient Budget* templates bring together soil test data, nutrient recommendations, and fertiliser data to calculate a balance for planning and post-harvest review. The templates can be printed from the online PDF or used as an online tool through: https://nutrient.landwise.org.nz.

Within precision prescription, LandWISE and the farmers found the *Nitrate Quick Test* a very helpful, cost-effective tool to determine nitrogen requirements. It does not take too much time to collect a representative sample, and the test, which can be completed in the paddock or workshop, only costs a couple of dollars. That small cost is more than covered by the saving in fertiliser and the time needed to collect and apply it.



Working with growers to test their equipment performance checks application rates and uniformity and builds knowledge and confidence

#### **Precision Application:**

Precision Application is about the right product, in the right place, at the right time. Our activity was based around fertiliser equipment calibrations and trials looking into rates and split applications. Calibrations are essential to ensure the target rate was being applied with satisfactory uniformity. The original FertSpread.nz app was upgraded to include methods and calculations for placement machines such as planters and side-dressers. The team helped each grower through the calibration process at least once, to ensure correct practice and to build confidence.

#### **Maximum Retention:**

Maximum Retention is focused on keeping nutrients in the root zone. A number of alternative management strategies were trialled, including split application of N fertilisers, slowrelease fertilisers. To reduce leaching risk by minimising unnecessary drainage, we presented the IRRIG8 Bucket Test for irrigator calibration.

One very effective retention practice is increasing the depth of the rootzone. Crop rotations that follow a shallowrooted, high-nitrogen requiring crop with a deep-rooted, nitrate scavenging one, can be very effective.

## 66 Calibrations are essential to ensure the target rate was being applied with satisfactory uniformity

#### **Effective Mitigation:**

The LandWISE team planned to instal and monitor the effectiveness of woodchip bioreactors to strip excess nitrate from surface drainage water. Drainage network water testing was conducted after rain events. High concentrations of N were found in the water entering Lake Horowhenua, however, places in the vegetable growing zone where nitrate levels were sufficient to "feed" a woodchip reactor could not be identified.

The team's observations lead to the conclusion that growers are willing and quick to change management when they see reason, have access to suitable tools, and are coached to bring them together. When the tools also provide evidence of good practice for inclusion in NZ GAP and Farm Environment Plans, adoption is greatly increased.

Where to from here? The LandWISE Nutrient Budget is a recognised tool in NZ GAP EMS. This, and the fertiliser and irrigation calibration tools, are available for use by growers to help plan and check that their nutrient management is at best practice standard. LandWISE and HortNZ are developing proposals to take the lessons from Future Proofing Vegetable Production to growers in other regions.

The Future Proofing Vegetable Production project was funded by MPI's Sustainable Farming Fund, Horizons Regional Council, Ballance AgriNutrients, Potatoes NZ, Gisborne District Council and LandWISE, with much support from growers and industry.



## Medical and Travel Insurance cover for New Zealand Inbound Seasonal Workers

The Seasonsafe Inbound policy offers the following policy features\*:

- Selected cover for epidemic and pandemic diseases including Covid-19 Cancellation and travel disruption
- Emergency Assistance provided 24 hours/7days a week
- Personal baggage, effects and personal money benefits
- Personal liability benefits

Contact: Mark Taylor 021 826 793 www.insurancesafenz.com

InsurancesafeNZ

# **SUSTAINABLE VEGETABLE SYSTEMS:** CONNECTING WITH GROWERS

Words by Gemma Carroll : Potatoes NZ Inc. communications & engagement officer



Plant & Food Research social scientist Toni White

## Field trials in Sustainable Vegetable Systems (SVS) are providing data that will better inform more bespoke vegetable-focused modelling and tools.

The SVS Project has a focus on delivering practical outcomes for growers, helping them to navigate nutrient management (particularly nitrogen), social licence to grow and the increasing complexity of environmental regulation.

The project aims to advance vegetable growers' ability to access and utilise information that supports them in making good nutrient management decisions on their properties.

Vitally however, the team on the SVS project realise that there is more to growing vegetables than what their science alone can tell them. This is where it is important for us to have growers' input to inform the project about the design of resources that growers can use on their farms to support decision making.

A solution that doesn't fit the needs of growers would be no solution at all. Therefore, two social scientists from Plant & Food Research, Toni White and Waka Paul, have joined the SVS project to ensure that the tools and resources



Plant & Food Research social scientist Waka Paul

produced to guide nutrient management are informed by grower perspectives, experience and knowledge, and are practical and fit for purpose.

Toni and Waka will be contacting growers in the next few months to participate in interviews or grower group discussions in the Pukekohe, Hawke's Bay, Manawatu and Canterbury growing regions. They will be exploring growers' attitudes, values and beliefs around nutrient management, and whether there have been any changes in attitudes and practices. They aim to get an overview of current practices. Also, of the tools growers are currently using to inform decision making on nutrient management, what they like or do not like about these tools, and what they would like to see in any new tool that might become available – both in information content and functionality.

Toni and Waka will be contacting growers in the next few months to participate in interviews or grower group discussions in the Pukekohe, Hawke's Bay, Manawatu and Canterbury growing region Originally from the Bay of Plenty, Waka Paul first became involved in horticulture on cherry orchards in Central Otago. After five years of orcharding, moving north, he worked in a tractor driving role for a vegetable growing company based just out of Hamilton. He has recently completed a Masters in Anthropology. His research has focused on New Zealand horticulture and aquaculture. Waka also has experience in acting as a conduit between landowners and Regional Council. He is interested in gaining an understanding of how people see the environment and the reasons behind those perspectives.

Toni White has worked alongside growers and farmers in the social sciences for the last 15 years, seeking to bring together science and producer views, aspirations, and knowledge to enhance and optimise outcomes for producers. Originally from Northland, Toni pursued horticultural qualifications at Massey University before going on to work in small scale greenhouse and field vegetable production, horticultural retail, and kiwifruit systems. Toni's training in environmental planning and management as well as the social sciences provides a foundation for creating practical outcomes for landholders and producers in partnership with science and industry.

We encourage your participation in these SVS project interviews and grower groups to ensure that the grower voice is heard and that the vegetable sectors progress towards securing a more sustainable future.

An update and overview of Sustainable Vegetable Systems project will be part of the August programme at both the Horticulture Conference in the Vegetables New Zealand session https://conferences.co.nz/ hortnz2021/ and at the 2021 NZ Potato Industry Forums http://potatoesnz2021.nz/.

Registrations now open.

The SVS project team would like to acknowledge all the researchers and growers who contribute to this ongoing industry transformation work and would like to thank the funders: The Ministry for Primary Industries, Potatoes New Zealand, Vegetable Innovation & Research Board, and HortNZ.











**NEVODA** 

09 238 0770 021 959 948 nevoda@hyper.net.nz 70 Tuakau Road PUKEKOHE

# **MECHANICAL VENTILATION** IN SEMI-CLOSED GLASSHOUSES

Words by Elly Nederhoff : Crophouse Ltd



Roof vents wide open on a hot day

# This series of articles is about improving energy efficiency in greenhouses, as part of the plan to reduce carbon $(CO_2)$ emissions, or 'decarbonise.'

Greenhouse growers are encouraged to transition from carbon-emitting fuels such as coal, oil, and even natural gas, to low-carbon alternatives. Some low-carbon energy sources include sustainable electricity, biomass, biogas, waste heat, geothermal energy, and in the future, hydrogen. This article is about using 'green' electricity for greenhouse control. Electrification often starts with using electric fans for mechanical ventilation.

## Electricity

Climate control based on electricity can only be sustainable if the electricity is generated by hydropower, wind, solar power, or other sustainable means. For decades, a large proportion of New Zealand's electricity supply has been generated by hydropower stations. The demand for power has constantly increased and less hydropower is now being produced due to low water levels in lakes. The void is filled by power stations fired by conventional unsustainable fuels.

Electricity transmission over a long distance is inefficient and expensive. Ideally, power would be generated in close proximity to where it is needed, perhaps even on-site.





Fewer vents means less maintenance

Currently, there are insufficient incentives for installing solar systems or wind turbines, but once sustainable power becomes accessible and affordable, electrification of greenhouse climate control can become a viable option.

## **Mechanical ventilation**

The use of mechanical, or forced ventilation, to replace (or supplement) natural ventilation requires a system of axial fans with air tubes (sleeves, hoses) called Air Treatment Units (ATUs). A glasshouse with forced ventilation can have up to 75% fewer roof vents than a standard glasshouse. The less natural ventilation there is, the stronger the forced ventilation must be. Therefore, there is a wide variation in forced ventilation rate. Some systems can only exchange 5 m<sup>3</sup> of air per m<sup>2</sup> per hour whereas others can achieve up to 80 m<sup>3</sup>.

## Semi-closed greenhouses

Greenhouses with forced ventilation and reduced natural ventilation are known as semi-closed greenhouses. There is a wide range of semi-closed systems available, some very advanced. Over nearly a decade, many semi-closed greenhouses have been built in Europe and elsewhere. Some have shown astonishing results, especially in regions with extreme climates.



The greenhouse on the right has forced ventilation

#### Fan system design

Forced ventilation systems must be designed properly with regards to the spacing and dimension of the tubes (0.3-1 metre diameter), single or double skin tube, number and positioning of perforations, fan speeds and electrical capacity.

The axial fan must be powerful enough for the length of the tube connected to it and be able to run at variable speed. Depending on the design, fans often run at about 30-70% of full capacity, or in the order of 50% on average over a year.

The fans (Air Treatment Units) can be built along an outside greenhouse wall or can be installed inside a corridor. Here, the greenhouse air is mixed with outside air, and treated if required. Depending on local climate conditions,



A fan for mechanical ventilation

air treatment can be applied by built-in devices, for instance; a heating coil, cooling coil, pad-and-fan cooling (adiabatic cooling), energy recovery, condensation recovery, CO<sub>2</sub> injection and fogging.

#### The figures

The tubes can be spaced out, for example, at two metres. A 100-metre-long tube then serves 200 m<sup>2</sup>. An example of a small system is one with 60-metre-long tubes, each with a 350-Watt axial fan. Each fan can move about 6,000 m<sup>3</sup> of air per hour, which is 50 m<sup>3</sup>/m<sup>2</sup>/hour. Assuming the fans run at 50%, the electricity capacity is only 1.5 Watt per m<sup>2</sup> (350 x 0.5 x (1/120)). The annual power use can be estimated at 13 kiloWatt hour per m<sup>2</sup> per year (1.5 \* 365 \* 24 \* 0.001). This is equivalent to about 1.5 m<sup>3</sup> gas/m<sup>2</sup> per year but does not include heating.





Here the fans are placed in a corridor (photo Enerdes)

For instance, a large system - one with very long tubes of 140 metres (covering 280 m<sup>2</sup>) - may have a strong axial fan of 2.6 or even 3.5 kiloWatts. Each fan can move 18,000-22,000 m<sup>3</sup> per hour, or 64-79 m<sup>3</sup>/m<sup>2</sup>/hour. If a fan runs at 50%, it uses 4.6-6.3 Watt per m2. Over a whole year, at 50% on average, the power use would be 41-55 kWh/m<sup>2</sup>/year. This is equivalent to roughly 4.7-6.3 m<sup>3</sup> natural gas per m<sup>2</sup> per year.

Special thanks to Frank Van Rooijen (www.reinderscorporation.com/enerdes) for providing these technical figures.

66

## The advantage of a semi-closed greenhouse is that there are fewer vents, therefore less wear and tear and maintenance

#### Advantages

The advantage of a semi-closed greenhouse is that there are fewer vents, therefore less wear and tear and maintenance. Fewer vents also mean less light is lost and insect ingresses are reduced. The advantages of forced ventilation over natural ventilation are better controllability, better temperature, and humidity distribution – hence less condensation, a lesser risk of fungal infection, and possibly a higher  $CO_2$  level at the same  $CO_2$  injection rate. Due to better humidity control, the humidity setpoint can be selected to be higher without increasing the risk of plant disease. This reduces the amount of energy needed for humidity control. Forced ventilation can also be used to influence plant transpiration.



Air tubes in one of the first semi-closed greenhouses

When the fans remove moisture, the plants will respond by increasing transpiration. In greenhouses with a thermal screen, forced ventilation prevents moisture build-up under the screen. Hence there is no need for a gap in the screen for humidity control, which saves energy. Forced ventilation helps to improve the energy efficiency in several ways, particularly through more efficient humidity control.

## Complications

Both with natural and forced ventilation, not much can be done when the conditions inside and outside are nearly the same. The fans are then set to a high speed, so the air movement has some effect. The fan speed is often controlled based on the difference in absolute humidity between inside and outside.

Most of the time the fans don't need to run at their maximum speed. But if they run too slowly, poor air distribution can occur, and the tubes can collapse due to insufficient pressure. The grower will need to find the right balance between energy use and keeping the tubes inflated.

Providing additional heating through the tubes does not always work, depending on many variables. Warm air in a tube cools down much faster than hot water cools down in a heating pipe. In those systems it works best if the incoming fresh air is pre-heated to the temperature of the greenhouse air and not much higher.

#### Conclusions

Semi-closed glasshouses with mechanical (forced) ventilation are currently being used successfully in many locations around the world. Forced ventilation gives greater controllability, improves humidity control, indirectly saves energy, and increases the efficiency of CO<sub>2</sub> enrichment.

# **PRODUCT** GROUPS

**ALL THE LATEST NEWS FROM YOUR PRODUCT GROUPS** 



McCain

Mccain

LVI

PSSL

M'Cain





# **THE FUTURE** OF ASPARAGUS

Words by Karen Orr : HortNZ business manager



Seed potatoes being grown aeroponically for virus management

## More than half of the asparagus industry came together for the New Zealand Asparagus Council (NZAC) 2021 Annual General Meeting in Hawke's Bay in early July.

With increasing labour costs and the difficulty of securing skilled staff for the asparagus season, the industry is working to adopt more automation in the picking and packing of asparagus, so the first stop on the AGM field trip was a visit Rockit's new headquarters in Hastings. The growers had a tour of the apple packhouse, seeing their use of automation and technology in action. The team at Rockit shared their innovation and sustainability roadmap which aims to minimise inputs and waste whilst maximising productivity, yields and sustainable operations across their business.

Seeing Rockit's use of automation and learning about their growth and sustainability goals provided great inspiration to the asparagus industry.

By placing their strong understanding of the single apple variety and their market at the centre of their business, Rockit has been able to double their volume year on year and sell out of fruit.

## The team at Rockit shared their innovation and sustainability roadmap which aims to minimise inputs and waste whilst maximising productivity, yields and sustainable operations across their business

Next stop on the field trip was to Plant & Food Research near Havelock North. The group was shown some of the "future of growing" research that the team there are involved with, including the use of hydroponics and aeroponics in growing vegetables.



Through automation, Rockit has been able to double their volume of fruit

Similar to how hydroponics grows plants soil-less using nutrients and water in an inert medium, in aeroponics roots are exposed and are sprayed or misted with nutrient-rich water. The group looked at seed potatoes being grown aeroponically for virus management.

Growers enjoyed looking at field trials that are part of the 'Sustainable Vegetable Systems' project to measure and redesign vegetable systems to lessen nitrate leaching. The project plans to develop grower friendly tools from the research for best practice guidance in the future.

Following the visits, the group met in Napier for an update on NZAC activities and a presentation on the development of a commercial asparagus harvesting robot. Steve Saunders of Robotics Plus presented an update on progress to set up a three-year autonomous crop management project, which will be co-funded by the Ministry for Primary Industries (MPI) through Sustainable Food and Fibres Futures funding. The project is aiming to start in August and provides the industry with a great opportunity to work together on defining their unique selling proposition.

The asparagus industry voted to support this project, with growers agreeing to invest in reinvigorating their export market and creating a unique brand story for New Zealand grown fresh asparagus. Sam Rainey, NZAC Chair, said the industry has named the project 'Asparagus Future' acknowledging how important it is to build value for growers through initiatives undertaken during the project.

"This project is about the future of our industry, and we need this so we have a future," Sam concluded.



## Aztec

Sutured melon with mild ropey net and medium small cavity. Aztec yields well with good fruit numbers, shipping and storage ability. Strong vine, good canopy cover. Great aroma, flavour and a brix of 12-14°. Weight 1.6-1.8kg. HR: Fom:1-2, Px:1-2, Gc:1-2. A real Rockmelon!

## Lovelock

Exciting new cauliflower suited to harvest early January to early April dependent on location. A strong plant with good jacket and stunning wrap. The curd is semi domed, white, dense, with excellent tuck.

## T-Rex

High producing main season hybrid variety. Strong vining plant with very good fruit set, growing fruit 1.2-2.3kg. T-Rex has longer neck and smaller seed cavity than OP lines. Very good storage.



Call us today about our range 0800 Lefroy (533 769)



# **ONIONS NEW ZEALAND** WINTER TOUR

Words by James Kuperus : Onions NZ Inc. chief executive



The invasive Fall Army Worm is a problem for crops across the world

## Onions New Zealand has had a successful Winter Tour this July, meeting with 28 onion growing enterprises and 72 industry representatives in Christchurch, Ashburton, Hawke's Bay and Pukekohe.

Onions NZ discussed upcoming changes, informed industry of Onion NZ's current priorities and heard out growers' concerns.

The following is a summary of the key updates raised during the tour:

## Shipping

Shipping has been a major disruptor for the industry over the last 12 to 18 months, an issue that is likely to be an ongoing one for the coming season. Reliability of global shipping plummeted in 2020, remaining at 35-40% year to date 2021 (fig. 1). This is approximately half of what it was pre-pandemic.

Onions New Zealand also highlighted the rise of Southeast Asia's importance in the New Zealand onion sector. Since 2005, onion exports (FoB) have increased from \$5 million to \$50 million

There has also been a decline in ships visiting New Zealand (fig. 2, dark blue line). This means that every time there is a blank sailing, it has a multiplying effect. i.e. Every time a ship skips a port, there is a longer wait for the next vessel and more cargo to go on that vessel. These two issues combined with climbing shipping rates, do not paint a positive outlook for shipping.

## The Rise of Southeast Asia

Onions New Zealand also highlighted the rise of Southeast Asia's importance in the New Zealand onion sector. Since 2005, onion exports (FoB) have increased from \$5 million to \$50 million. One particular event contributing to the increase in exports to Southeast Asia, was the signing and implementation of the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) in 2010 (fig. 3). The ASEAN (Association of Southeast Asian Nations) Free Trade Agreement and Southeast Asian nations are critically important for the industry and will require careful focus and care to ensure future prosperity of the sector.



Figure 1: Global Schedule Reliability







*Figure 3:* Since AANZFTA was implemented in 2010, two-way trade between New Zealand and ASEAN has grown by almost 30%



#### **Fall Army Worm**

The spread of Fall Army Worm across the globe was also discussed. Since 2016, it has spread from the Americas through Africa, Asia and into Australia in 2020. Australia is now looking at long-term management of this pest rather than eradication. Spread by the wind, this moth is likely to arrive in New Zealand within the next five

years. The industry is reminded to report anything unusual through the Find-A-Pest app or by calling the Ministry for Primary Industries (MPI) pest and disease hotline 0800 80 99 66.

### **Changes to regulations & policies**

Several upcoming regulatory changes that are likely to impact the sector were highlighted at the meetings. Due to being an export-oriented sector, we are not only exposed to domestic policies but also international ones.

## The following is a summary of some upcoming regulations Onions NZ is aware of:

Freshwater Farm Plan System - submissions close 12 September 2021

Climate Change Commission

3 The Proposed Natural and Built Environment Bill submissions close 4 August 2021

- 4 Biosecurity Act
- 5 Plant Varieties Rights Bill
- 6 Organics Bill
- 7 He Waka Eke Noa
- 8 European Union Green Deal
- 9 Commerce Commission Pricing Review
- 10 Fair Pay Agreements
- 11 Export Legislation (not yet being consulted on)

Over the coming months it will be important for industry to manage these changes and prepare for the impact that some may have.





# **PEPINO MOSAIC VIRUS** ON TOMATOES UPDATE

Words by Helen Barnes : TomatoesNZ Inc. general manager

Given the highly transmissible nature of the Pepino Mosaic Virus (PepMV), the industry and the Ministry for Primary Industries (MPI) have agreed that eradication is not possible. TomatoesNZ are now looking at long-term management options, including:

- Supporting the implementation of farm biosecurity measures (greenhouse hygiene).
- Reducing the chances of spread via vectors such as crates.
- Further surveillance to determine the distribution of the virus, and research to understand the impact it could have.
- Exploring the option of using a PepMV 'vaccine' to minimise crop damage.

#### It is important that all tomato growers:

- Have good biosecurity cleanliness measures at all stages of crop production. See the TomatoesNZ glasshouse hygiene poster for more information on this.
- If possible, assign workers their own PPE (personal protective equipment), tools, carts etc and restrict these to single glasshouses or glasshouse sections/ compartments.
- Restrict access to your crop do not allow visitors.
- Keep a close eye on your crop and familiarise yourself with the virus symptoms. Information on the symptoms is available from us, including a poster on the virus.
- If you think you have found signs of PepMV, immediately contact Biosecurity New Zealand through its freephone pest and disease hotline: **0800 80 99 66.**

Download the grower information sheets on Pepina Mosiac Virus (PepMV) here:

https://www.tomatoesnz.co.nz/dmsdocument/206-tnzgreenhouse-hygiene-poster-pdf https://www.tomatoesnz.co.nz/dmsdocument/205-tnztobrfv-pepmv-poster-pdf





### **Energy efficiency articles**

Last year we arranged for greenhouse specialist, Elly Nederhoff, to update a series of energy efficiency articles for greenhouse growers that she originally developed during a project called 'Improving Energy Efficiency in Greenhouse Vegetable Production'.

There are now ten updated articles in the series published monthly in NZ Grower from October 2020, with an eleventh article on "Mechanical ventilation in semi-closed glasshouses" on page ... in this month's magazine. These are also available on our website to download under: https://www. tomatoesnz.co.nz/hot-topics/energy-efficiency-for-growers/

The articles are titled:

- Energy efficiency in greenhouses
- Greenhouse climate physics
- Humidity control
- Energy wise humidity control
- Plant empowerment
- Humidity control in Growing by Plant Empowerment (GPE) approach
- Temperature effects on plants
- Light balance
- Greenhouse temperature
- Climate Control

Growers have told us that they have found these articles helpful and informative, so we think it will be worthwhile adding a few more articles on this subject. We are also looking at putting together an e-book grouping the topics, so it is easy to read and refer back to. If there are other areas you would like to see in this series please let us know.

#### **TomatoesNZ Board**

As we did not receive any nominations to the board prior to the 2021 Annual General Meeting, the two current members who retired by rotation, Callum Grant from Kakanui and Albert Shih from Christchurch, have been re-elected. Thus, we are pleased to confirm members of the TomatoesNZ Board for 2021-22:

- Barry O'Neil independent chair
- Simon Watson vice chair, grower representative, NZ Hothouse, Drury
- Anthony Tringham grower representative, Curious Croppers, Clevedon
- Albert Shih grower representative, Vege Fresh Growers Ltd, Christchurch
- Callum Grant grower representative, Kakanui Tomatoes Ltd, Oamaru
- Mayank Saklani grower representative, Wing Shing Farms, Papakura
- Pierre Gargiulo co-opted member, JS Ewers, Nelson
- Ben Smith co-opted member, T&G Fresh, Auckland
- Stefan Vogrincic co-opted member, Grower2Grower, Karaka

- Roelf Schreuder co-opted member, NZ Gourmet, Auckland
- Andrew Hutchinson observer, T&G Fresh, Auckland
- Allen Lim observer, director of Vegetables NZ Inc & member Covered Crops Advisory Group, Jade Gardens, Christchurch

There is currently one vacancy for an elected board member. If you are a tomato grower interested in joining the board or would just like to come and observe the next board meeting, please get in touch with me to find out more.

#### **Covered Crops Merger Remit**

At both the TomatoesNZ and Vegetables NZ Inc 2020 AGMs, a member remit proposed by Roelf Schreuder of NZ Gourmet and accepted by members, requested "That TomatoesNZ Inc. and Vegetables NZ Inc. develop options for, and an opportunity to vote on, combining covered crops under one representative product group or body."

To address the remit, a Covered Crops Merger Working Group made up of TomatoesNZ and Vegetables NZ Inc. members and an independent chair was established. The working group met several times and developed three possible options:

- 1 Status quo structure (TNZ and VNZI) with closer cooperation.
- 2 A covered vegetable crop growers' body and a separate outdoor vegetable growers' body.
- 3 One vegetable growers' body incorporating both covered and outdoor crops (including tomatoes).

However, the views of working group members were split over options 2 and 3, and it became clear that there could be no resolution on which was the preferred option to put to members. It was considered impractical to put three options to member consultation and vote, given the divergent views of the working group members. Thus, option 1: "status quo with increased cooperation" is being actively explored by TomatoesNZ and Vegetables NZ Inc., and the following remit proposed:

## Remit 10: That members support continuation of the status quo structure for TomatoesNZ Incorporated.

#### Proposed by the TomatoesNZ Board

Supporting this remit at the 2021 AGM on 5 August will confirm that a vote on alternative structures will not be held. The Vegetables NZ board has also proposed that their members support the status quo structure, to be voted on by their members at the 2021 Vegetables NZ Inc. AGM. ●



# **POTATO SEED CO-OP OPENS NEW** STORAGE FACILITY IN ASHBURTON

Words by Heather Woods

Michelle Pye, one of four directors of the Potato Seed Co-operative, talked us through their goals, which are increased seed quality and cost efficiency, and their decision to back themselves through construction of a purposebuilt potato-seed store.

Michelle was recently co-opted onto the Board of Potatoes NZ and has a broad industry perspective ripe for cross-pollination of information. She says she simply wants to add value with her experience.

In her opening night speech, Michelle said: "You reap what you sow. I couldn't be prouder of what we have all achieved." That seed was sown back in 2016 when McCain decided not to supply seed to the process potato growers any longer, and so creating a grower group seemed like the obvious solution. Not only would it help to spread risk, but efficiencies in the form of shared resources and a dedicated general manager would benefit everyone. There were growers with cutting facilities in Timaru, growers considering an exit and growers not looking to invest capital. The challenge: a way forward that worked for everyone. THE NEW FACILITY COMPRISES TWO 3,000 SQUARE-METRE COOLSTORES WITH CAPACITY FOR 8,000 TONNES OF SEED



#### Future-proofed storage solution officially opens

With their main storage facility in Timaru no longer an option, the Potato Seed Co-operative opted to build their own. The new facility comprises two 3,000 square-metre coolstores with capacity for 8,000 tonnes of seed, plus an office and tea-room block, weighbridge and a tunnel house for winter grow-outs. The storage facility is built in two sections facing each other, covering 2.255 hectares altogether. This site design allows drive-through access.

General manager Ken Small project managed the build - on time and on budget - and was instrumental to its success. He and a supporting store manager will now be looking after the day-to-day operations so the group can focus on seed quality. Additional staff are hired as needed, such as forklift drivers and engineers; and cutting and grading now happen entirely on site.

## POTATO OF THE MONTH: BELLINDA

Early main season table potato, reliable yield, superb combination of texture and taste

**EUROGROW** the original suppliers of Agria

NORTH ISLAND Suresh Wallabh M +64 21 153 3089 E suresh@eurogrow.co.nz

Tony Hendrikse M +64 29 96 88 237 E tony@eurogrow.co.nz SOUTH ISLAND Elliott Lovegrove M +64 27 380 3080 E elliott@eurogrow.co.nz





The large and spacious facilities allow for the removal of lines of seed out of store, so they can warm before grading and cutting. Specialist equipment from the Netherlands, designed for potato seed storage, is monitored offsite from Europe on a daily basis creating huge time efficiencies.

Ashburton Mayor Neil Brown attended the official opening on 2 July 2021. Ribbon-cutting privileges were given to director John Jackson in recognition of his long career in the potato and seed industry. At the ceremony Michelle said the success of the entire project can be attributed to the great people involved and their willingness to work collaboratively.

#### The Potato Seed Co-op

The Potato Seed Co-operative Limited is now three years old and has 11 shareholders - all McCain process growers - and eight investors. What they realised on the journey was that having a purpose-built seed store came with other benefits. Firstly, it is centrally located for all involved, which contributes time efficiencies.

Secondly, far less transportation of the seed is required, saving time and money and generating environmental benefits by having less trucks on the road. Previously the seed had been harvested in mid Canterbury then carted to Timaru for storage and cutting, then carted back to mid-Canterbury where the process growers are located, but problem was removed with the opening of the new facility. Lastly, the new storage facility will slowly build equity for the group; and to be the most cost-effective in the long run, it had to be owned and controlled by the co-operative. Also, the size of the storage facility allows them to devise a ten-year expansion plan to store their entire seed stock and make this a practical reality.

66 The storage facility is built in two sections facing each other, covering 2.255 hectares altogether

The Potato Seed Co-operative are: Hamish McFarlane and Guy Slater, Hewson Family Lovett Family, Turley Farms, Leighton and Michelle Pye, Dean and Phillippa Pye, May Brothers, Allan Pye, Alan and Jan Newton, Nick and Mike Tayler, Leo Gaffaney. With directors: Michelle Pye (Chair), Ross Hewson, Danial Lovett, and John Jackson (McCain/ Independent). This co-operative would not be possible without the eight private investors that are crucial to the operation.

Make sure you have registered for the 2021 NZ Potato Industry Forums in Ashburton and Pukekohe, which replace the biennial conference this year.

Limited places are available at http://potatoesnz2021.nz/

## **Annand Propham<sup>®</sup> Potato Dust** | Inhibits sprouts on fresh potatoes

It is a key part of good storage or shipping practice to apply Annand Propham<sup>®</sup> Potato Dust to prevent sprouting and to keep potatoes fresh, preserve natural flavour, flesh quality and texture.

- Easily applied during loading of potatoes
- O Just one treatment is normally sufficient to keep tubers in condition for 8 months at 6-8°C
- Annand Propham<sup>®</sup> Potato Dust is packaged in 25kg bags for commercial use

Annand Propham<sup>®</sup> Potato Dust is an ACVM MPI Registered product P003465

Dianne Perry | Propham<sup>®</sup> Manager, AB ANNAND & Co Ltd

Phone: 03 325 2020 | Mobile: 027 242 2793 | Email: djp@abannand.co.nz | Web: www.abannand.co.nz





# **COMPLIANCE-HEAVY REFORMS** ARE NOT THE SOLUTION

Words by Antony Heywood : Vegetables New Zealand Inc. general manager

In early June, Agriculture Minister, Hon Damien O'Connor, released a government framework for farming planning: *Good Farm Planning Principles Guide: Toward Integrated Farm Planning*.

The integrated farm planning approach aims to provide advice to growers on how to organise their farming operations across areas such as climate change, animal welfare, biosecurity, and people management - with a large focus on integrating greenhouse gas emission targets and freshwater regulatory requirements into planning.

As a grower, you are expected to hold a sound understanding of this concept, and your role in the process.

Although the genesis of this concept was to reduce compliance and duplication rather than doubling down on red tape, it is a large assumption to think that a holistic approach will streamline regulatory processes.

66

teach growers how to use the tools and manage their outcomes, and allow them the time they will need to learn these new skills and embed them into their business practice

Growers are under mounting pressure. Instead of providing tools for growers to succeed, the outcome is likely to push growers towards consultant-based reports, deficient of pragmatic solutions. Employing costly consultants to deal to complex regulation, is not a sustainable solution for our growers. Instead, teach growers how to use the tools and manage their outcomes, and allow them the time they will need to learn these new skills and embed them into their business practice.

To their credit, government is continuing conversations on supporting frameworks of assurance programmes such as GAP. While GAP will not be a complete solution for the new Freshwater Farm Plan regulations, there are many elements of the programme which will meet the new policy requirements. Government's support of such programmes is hoped to avoid further compliance duplication.

For a grower I would say this – if you can follow GAP, and the risk-based process that GAP is built on (delivering an action plan), these regulations should not be too onerous. If you embrace the concept and use it to drive a better bottom line (manage your resources), it may not be the last straw that broke the camel's back.

Good Farm Planning Principles Guide: Toward Integrated Farm Planning: https://www.mpi.govt.nz/ dmsdocument/45382-Good-Farm-Planning-Principles-Towards-Integrated-Farm-Planning



# **STREAMLINED SPRAY MANUAL** ON THE WAY

The latest edition of the *Novachem New Zealand Agrichemical Manual* is available in August, and new editor Peter Holden says while 18 months may not seem a long time between publications, much has changed in the industry since the last one was published.

And he's not just talking about new products, although there are plenty of those.

"The 2022 manual features the addition of 40 completely new proprietary registered agrichemicals and 50 new generic registered products. At the same time, 80 agrichemical products have been discontinued.

"The notable trend is the withdrawal of older chemistry that presented a high risk to users and the environment, being replaced by more target specific products, which are much safer to use and present a low risk of environmental harm."





Meanwhile regulations relating to agrichemical use and handling have also changed since the last manual, he points out.

From the start, one of his big priorities was to keep the manual from getting too physically big while still including all the information it's renowned for, and he's happy to say the new one is smaller than its predecessor.

Part of that is down to taking a lot of the common mandatory information out of each label, and placing that in one separate, collective advisory section.

"These are the topics that apply to many if not all agrichemicals, for example, regulations around PPE (personal protective equipment), storage, managing spills, container disposal, decontamination and clean down, and so forth."

The result is that each label listing in the new edition contains only content that is highly product specific, minus pieces of script that previously were repeated for every product.

"The supplementary information is still there for anyone who requires it, it's just been given its own separate section. In many ways it will be easier to refer to those topics in this new format."

MRL (Maximum Residue Level) references on labels have been removed as these can and do change over time. The Ministry for Primary Industries (MPI) maintains an up-todate database online for these, he says.

New HSNO (Hazardous Substances and New Organisms) classifications have been included alongside old ones in the advisory section of the manual.

While a large number of people continue to enjoy having a hard copy of the *Novachem New Zealand Agrichemical Manual*, subscription to the online version has the additional benefit of providing product updates as they occur as well as being able to directly link to labels, safety information and further technical information from product suppliers.

For more detail visit www.novachem.co.nz

# **LOOKING AFTER SEASONAL** WORKERS IN THE TIME OF COVID-19



Up to 2,500 seasonal workers are expected to arrive in New Zealand between now and March 2022

New Zealand relies on seasonal workers to help its crucial agricultural sector thrive. Following many challenges as a result of the pandemic and border closures, seasonal workers are now returning to our shores to bolster the labour supply shortage.

It is estimated that between now and March 2022, up to 2,500 workers from Vanuatu, Samoa and the Solomon Islands will arrive in New Zealand as part of the Recognised Seasonal Employer programme. These workers will provide critical support to the fruit, vegetable and grapegrowing industries.

For those embarking on the journey to New Zealand, it doesn't come without risk. It is essential that seasonal workers are insured for their period of stay in New Zealand, to cover potential medical or travel issues that might arise.

Allianz Partners and Mercer Marsh Benefits have developed *Seasonsafe* to protect seasonal workers coming to New Zealand by providing medical and travel insurance. *Seasonsafe* now offers selected cover for epidemic and pandemic diseases\*, including Covid-19.

Mercer Marsh Benefits Business Development Manager, Mark Taylor, says the policy has been designed with seasonal workers in mind. "When creating the policy, we considered the specific needs of seasonal workers and benefits that would be relevant to this group, such as emergency dental treatment. With this in mind, we recently updated the policy to include selected cover for epidemic and pandemic diseases such as Covid-19," he says.

Allianz Partners New Zealand Chief Executive Officer Kevin Blyth says it's important employers ensure their workers have insurance in place during their time living and working in New Zealand in the wake of Covid-19.

"All workplaces have a role to play in looking after employees and minimising the risk of Covid-19 transmission - this is no different for seasonal workers. Seasonsafe can provide assurance to both employers and seasonal workers that cover is in place should seasonal workers contract Covid-19 during their time working in New Zealand," says Blyth.

Seasonsafe is part of InsurancesafeNZ, a portfolio managed by Allianz Partners and Mercer Marsh Benefits. Seasonal workers who hold a current Recognised Seasonal Employer Limited Visa are eligible for this policy.

Those interested in making Seasonsafe available to employees should contact Mark Taylor, Mercer Marsh Benefits Development Manager mark.taylor@mercermarshbenefits.com.

\*As with any insurance, terms, conditions, limits, sub-limits and exclusions apply. To require cover for pre-existing medical condition(s), a medical risk assessment form must be completed as stated in the Policy Wording.





## CLASSIFIEDS

### **Classified advert rates**

	1	3-5	6-10	11
Quarter Page	\$435	\$420	\$395	\$355
Eighth Page	\$245	\$235	\$225	\$205
<b>Cameo</b> (W40 x H65mm)	\$145	\$140	\$135	\$125

Custom \$40 per column cm

To book a classified advertisement in our next issue contact: Debbie Pascoe (09) 2363633, M: 0274 858562 Email: dpascoe@xtra.co.nz



Contact us today for all your crate washing needs www.matmanwashing.co.nz e: matman.cratewashing@xtra.co.nz m: +64 27 288 8299 t: +64 7 825 9190



## 

fertilising New Zealand naturally www.viafos.co.nz | 0800 842 367







## Robust Quality Advanced Technology

Sfoggia Transplanters delivered by Transplant Systems

phone: **0800 800 923** www.transplantsystems.co.nz email: colin.purchase@xtra.co.nz



## Great pumpkin and butternut varieties...

## **GREY:**

**SAMPSON:** Vine type, this strong plant produces large fruit, mid grey in colour, heavy and dense. Sampson has good fruit set and high yield potential. Sampson fruit has a concave top with thick, fleshy shoulders. Fruit is lightly ribbed with a small neat blossom end. Internal quality is exceptional; dark orange flesh and a very small seed cavity. Ideal for fresh cut fruit sales. The fruit stores well. Fruit size of 5 to 7kg.

**NELSON:** Early bush type, flat round shape with broad shoulders. Nelson is a very vigorous bush hybrid with early maturity. The bush habit results in easier growth management and allows higher population densities. The first fruit set is close to the crown, but if conditions are good, the plant can grow a vine with a later fruit set. The internal flesh colour is very attractive uniform dark orange. Fruit size of 4 to 6kg.

**MINARAY:** Vine type, medium sized grey pumpkin with excellent storage potential, ideal for whole fresh market sale. Flat-round shape with heavy shoulders and dark orange flesh. Fruit size 3.5 to 4kg with nice uniformity.

## **RED/ORANGE:**

**ORANGE SUMMER:** Semi-bush with early maturity, orange coloured fruit and flattish globe shaped fruit with thick walled flesh. Orange Summer shows early flowering which results in early fruit setting. Because of this, most fruit setting is near the base of the plant, which can give easier harvesting and facilitates mechanical weeding for a longer time. Has mild storage and excellent eating quality. Fruit size of 1.2 to 1.6kg

**FLEXI KURI:** Vine type with early maturity, commercial introduction: Orange coloured fruit, flat round shaped fruit with flattened top for stem protection during post harvest. Improved yield per plant with thick walled flesh. Shows early flowering which results in early fruit setting. Good storage and taste. Fruit size of 1.2 to 1.6kg.

## **BUTTERNUT:**

**TIANA:** Vine type with medium-early maturity, Tiana is suited for small size fresh market sale. High yield potential compared to OP-comparison. The fruit quality is very consistent and the flesh has an intense dark colour. Fruit size of 1 to 1.2kg.

**HAVANA:** Compact vine type, early maturing Butternut with good uniform internal colour. Classic Waltham fruit shape. Higher yield compared to standard OP types. Excellent storability. Fruit size of 1.2 to 1.5kg.

Enza Zaden NZ have a wide range of pumpkin varieties, from the super reliable storage of Sampson to the tasty thin skinned Orange Summer. Enza Zaden have proudly supplied commercial pumpkin and butternut varieties for many decades and we understand the importance of New Zealand's Vegetable Growing Professionals.

Please call us direct on 09 963 0122 to request seed of any of our varieties. Contact Beverley Vahai 021 193 1008 or sales@enzazaden.co.nz for customer support.

For technical advice on open field crops, contact Aneil Hari 021 367 242, or sales manager Herman van der Gulik, 021 858 939.



Backing mental fitness for New Zealand's Rural Professionals

www.rural-support.org.nz

www.enzazaden.co.nz