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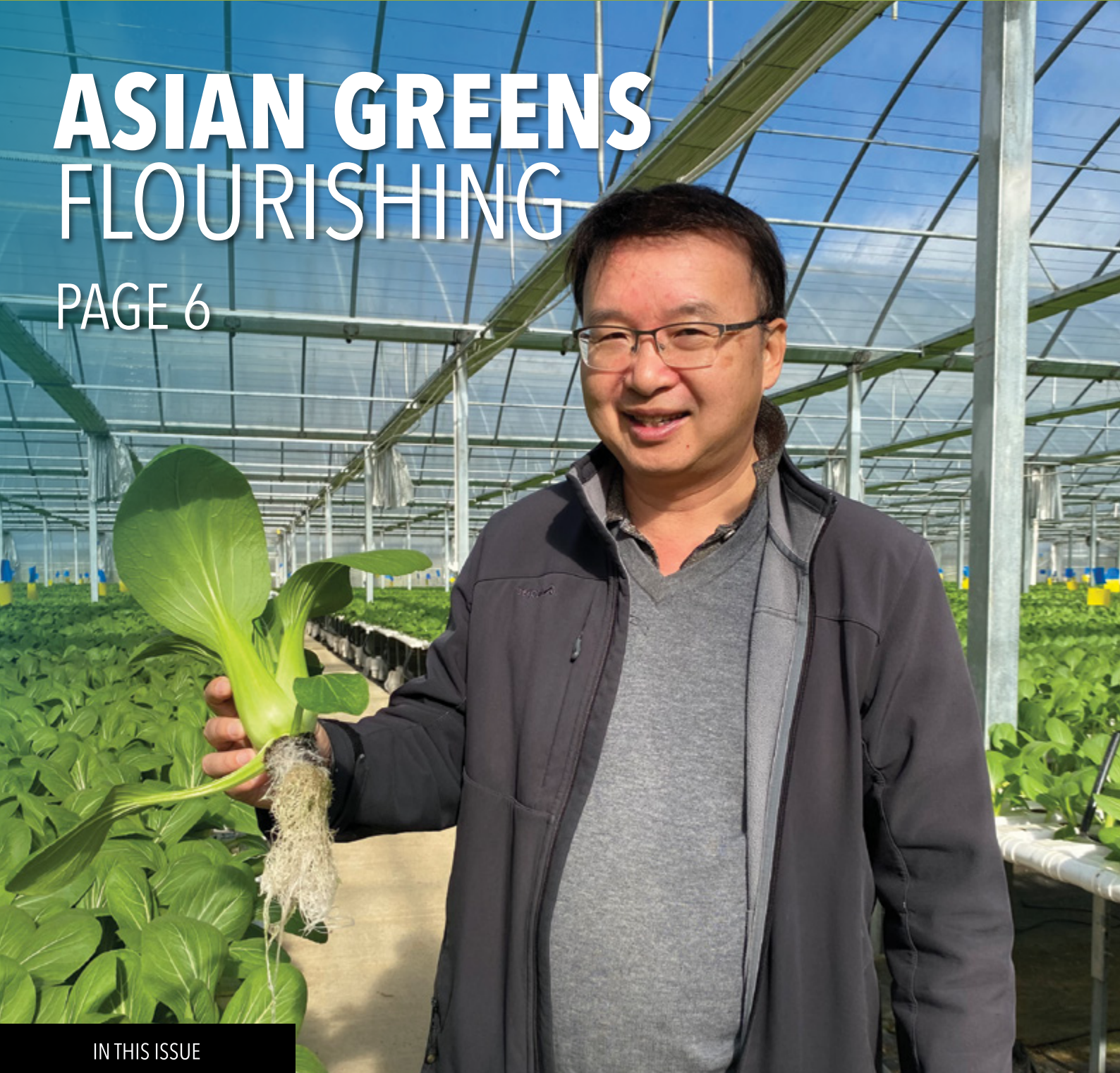


VOL 79 | NO 07 | AUGUST 2024

HORTICULTURE NEW ZEALAND

ASIAN GREENS FLOURISHING

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EXPLAINED



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FLIP TO FIND FRUIT

THIS ISSUE OF NZGROWER OFFERS YOU ANOTHER PERSPECTIVE. FLIP THE MAGAZINE TO SEE OUR SISTER PUBLICATION ABOUT FRUIT - *THE ORCHARDIST*.



ON THE COVER:

Asian greens flourishing, see page 6.
Photo by Helena O'Neill.

WHAT'S NEW

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

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HORTICULTURE AND THE PRIMARY SECTOR



Barry O'Neil : HortNZ president



At Fielddays from left: HortNZ president Barry O'Neil, Minister Nicola Grigg (Associate Minister of Agriculture for Horticulture), NZKGI chief executive Colin Bond and HortNZ general manager projects and programmes Rebecca Fisher

It was good to be at Mystery Creek Fielddays recently, and great to have Minister Nicola Grigg along with many industry leaders and growers come to visit our stand.

Also good to see and hear where the pastoral industry is at, unfortunately not very flash at all for our sheep and beef colleagues, and while dairy is a bit better off, significant increases in input costs and financing means there is very little left in the tank after expenses even for them.

And of course, there was significant discussion on carbon emissions and the government's announcement just before the Fielddays that agriculture would come out of the Emissions Trading Scheme, even before it really entered, which was well received by all the pastoral farmers and farmer leaders that I spoke to.

However, I'm not as sure we are doing the right thing here, and while He Waka Eke Noa (HWEN) may not have worked for everyone, to me it was achieving two very important things. We were committing to finding ways to reduce our emissions across the primary sector, with everyone doing their bit depending on types

of emissions, and secondly, we were working together as a joined up primary sector to address a significant issue for Aotearoa New Zealand.

“
...climate change and mitigation has got even more important!

Unfortunately, with HWEN now no longer and with a government seemingly promising they will do what the sectors are vocalising on the day, we have dropped the ball on both reducing our emissions and working together as one primary sector.



WE GROW ON **LESS THAN 100,000 HECTARES** AND THERE IS **OVER A MILLION HECTARES** OF LAND SUITABLE FOR HORTICULTURE IN NZ

Everyone seems to have gone into their trenches thinking they can get the deal they want, which really disappoints and somewhat frustrates me. And while this is happening, climate change and mitigation has got even more important!

To me *Primary* is much stronger when we work together, and goodness knows there are many issues that cross all our sectors, as well as our members. Emissions reductions is just one, but water storage and freshwater farm plans, flood protection strategies and delivery, science system review, gene editing, biosecurity and government industry agreements etc. etc., are but a few of the issues that I believe we would benefit from working collectively as the food and fibre sectors. And we can't continue to kick the can down the road on all these, we need to act.

Horticulture is becoming a substantial player in the primary sector, and will continue to grow. Why? Well, it's a no-brainer economically if out of the top ten returns for land use, horticulture products are numbers two to nine (aquaculture is number one believe it or not), with dairying coming in at number ten. Horticulture as a result has overtaken forestry to be the third biggest exporter after meat and dairy.

We grow on less than 100,000 hectares and there is over a million hectares of land suitable for horticulture in New Zealand, much of this is currently used for dairying. What a great solution to reducing emissions, improving water quality, while



REDUCING EMISSIONS



IMPROVING WATER QUALITY



INCREASING ECONOMIC RETURNS

increasing economic returns for dairy farmers, and so it's good to see land use change starting to happen. Not all the farm but putting five hectares or 20 hectares into horticulture is a smart move in my opinion.

“

Horticulture as a result has overtaken forestry to be the third biggest exporter after meat and dairy

With horticulture's healthy, natural and delicious products it's no wonder consumers are wanting more fresh fruit and vegetables, something New Zealand is able and willing to deliver, with great sunlight, soils and weather... well weather for the most part anyway!

Horticulture is going to become an even more significant player in the primary sector, and it's good to see that farmers and growers are understanding this, just as the government and officials have already recognised our increasing role.

Kia kaha ●



You can find HortNZ's chief executive's column on the opposite side of the magazine.

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2024 Annual General Meeting.

Notices of Motion

Please visit www.hortnz.co.nz for up-to-date information about the Horticulture New Zealand (HortNZ) AGM and related documents. A proxy form and AGM information will be provided to eligible growers by email and by post where we do not hold an email address for voting members. If you do not receive the information, please contact info@hortnz.co.nz.

These motions will be considered at the Horticulture New Zealand Annual General Meeting (AGM) being held at Mercury Baypark Events Centre, 81 Truman Lane, Mount Maunganui on Friday 30 August 2024 at 8.00am.

MOTION 1

That the minutes of the 18th AGM of Horticulture New Zealand, held on 3 August at Te Pae Christchurch Convention Centre be taken as read and confirmed as a true and correct record of that meeting.

Proposed by the HortNZ Board

Explanatory Note: A PDF of the Minutes of the 2023 AGM is available at www.hortnz.co.nz. If you have any questions or would like hard copies, please email info@hortnz.co.nz.

MOTION 2

That the President's and CEO's Reports for the financial year ending 31 March 2024, as published in the Annual Report, be taken as read and adopted.

Proposed by the HortNZ Board

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

MOTION 3

That the audited financial statements for the year ended 31 March 2024 be adopted.

Proposed by the HortNZ Board

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

MOTION 4

That the 2025-year levy rate for the purposes of the Commodity Levies (Vegetables and Fruit) Order 2019 remain and be set for domestic sales at 0.14% of the price received at the first point of sale, for export sales remain and be set at 0.14% of the price received after the deduction of all offshore costs and for processed sales remain and be set at 0.14% of the notional process value.

Proposed by the HortNZ Board

Explanatory Note: The Commodity Levies (Vegetables and Fruit) Order 2019 allows a maximum rate to be set for vegetables and fruit at 0.15% for domestic sales and processed sales taken at the first point of sale and at 0.15% for export sales at the first point of sale after all offshore costs (including international freight) have been deducted. For processed vegetables and fruit, the levy is deducted from the notional process value, which is defined in the Order. At the AGM levy paying growers may set any rate up to the maximum for the next calendar year. The current rate for vegetables and fruit is 0.14%. This levy funds the activities of HortNZ. The Board recommends that the levy rate be set and remain at 0.14% for the 2025 year.

MOTION 5

That directors' remuneration increases by 2.5% from the 2023/24 level for the 2024/25 financial year as follows:

Position	Current	Proposed
Director	\$31,477	\$33,051
Vice-President	\$39,097	\$41,052
President	\$84,665	\$88,898

Proposed by the HortNZ Board

Explanatory Note: The Independent Board Remuneration Committee reviewed Director remuneration data and considered a modest increase of 2.5% was in line with Institute of Directors guidance for an organisation of the size and nature of HortNZ.

Director fees are all inclusive; therefore, no additional per diem fees will be paid for Board sub-committee meetings, and regional or industry committee meetings attended on behalf of the Board.

MOTION 6

That the Budget for the year ended 31 March 2025 be endorsed.

Proposed by the HortNZ Board

Explanatory Note: A copy of the Budget for the year ended 31 March 2025 is available on request. If you have any questions, please email info@hortnz.co.nz.

MOTION 7

That BDO, Wellington, be appointed auditors for the year ended 31 March 2025.

Proposed by the HortNZ Board

Explanatory Note: BDO have acted as auditors for HortNZ since the year ended 31 March 2017. A new partner from BDO was assigned from the year ended 31 March 2024.

MOTION 8

Revocation of Constitution and adoption of replacement Constitution on re-registration under the Incorporated Societies Act 2022. That with effect from the date of re-registration of the Society under the Incorporated Societies Act 2022, the Constitution and Rules of Horticulture New Zealand Incorporated as last amended on 22 September 2022 be revoked and be replaced in their entirety by the Constitution of Horticulture New Zealand Incorporated in the form attached to the Notice of Meeting.

Proposed by the HortNZ Board

Explanatory Note: In order to re-register under the Incorporated Societies Act 2022 (which HortNZ must do by April 2026), HortNZ's constitution needs to be updated to reflect the requirements of the new Act. The Board has resolved that the opportunity should also be taken to modernise the constitution. As such, there are two types of changes proposed - those required by the new Act or made to reflect the new Act, and those that the Board recommends for the more efficient operation of the Society.

Accordingly, the constitution is proposed to be amended - with effect from the date of HortNZ's re-registration under the Incorporated Societies Act 2022 - by adopting the constitution circulated with this notice of meeting and via the HortNZ weekly update on 12 July 2024.

Attached to this Notice of Meeting is a copy of the proposed new constitution.

MOTION 9

That ALL voting rights for the Horticulture New Zealand AGM is aligned with the commodity levy voting of, total production value of the Grower Members, present in person or by proxy.

The proposal is to amend sections: 9. MATTERS RELATING TO THE OPERATION OF CONFERENCES subsection (j) Voting: (i) Voting at the AGM and at all other general meetings of the society will be on the basis of one vote per Active Grower Member, unless a dual vote is required pursuant to clause 9(g). AND SECTION 12. MANAGEMENT OF THE SOCIETY subsection (e) The election of directors will take place as follows: (v) Voting for the election of the Board will be on the basis that each Active Grower Member will have one vote.

Proposed by Mr Apple Limited

Explanatory Note provided by Mr Apple Limited: As was illustrated at the last commodity levy vote in July there was a significant increase in votes via value at 97% when numbers represented 86%. Historically there has been debate that lower value voters will feel disenfranchised by a value weighted vote. This latest levy vote has illustrated that this is and would not be the case. It also illustrates that larger voters are engaging better with the outcomes and strategic direction of the organisation. Also, many *Grower Members* are now either vertically integrated entities, or closely affiliated with larger integrated entities. Therefore, we put this motion to the AGM for further discussion.

Additional explanatory note regarding motions 8 and 9:

Both MOTIONS 8 AND 9 relate to changes to the Horticulture New Zealand Incorporated constitution and will be considered separately.

MOTION 8 (proposed by the HortNZ Board) will be considered first, and if passed, will result in the constitution being amended in the form presented and will be used for re-registration of HortNZ under the new Incorporated Societies Act.

MOTION 9 (proposed by Mr Apple Limited) will then be considered separately and subsequently. If MOTION 9 is passed, HortNZ in consultation with Mr Apple Limited would prepare further amendments to the constitution which would then be put to a subsequent meeting for approval.

If you require any further information about the AGM or would like a hardcopy of any of the AGM documents, please visit the HortNZ website www.hortnz.co.nz or call us on 0508 467 869 or email info@hortnz.co.nz





GROWING A MARKET FOR ASIAN GREENS



Grower Peter Pan in one of the new greenhouses developed at Karaka, south of Auckland

After many years of working with fresh produce, it wasn't until 2020 that Peter and Michelle Pan started growing fruit and vegetables commercially. HELENA O'NEILL talks with Peter about the growing interest in Asian greens and why the couple opted for hydroponics.

In rural Karaka, south of Auckland, Peter and Michelle Pan own Healthy & Fresh, a business growing Asian greens hydroponically. They grow around 25 different crops in 15 greenhouses at the Karaka site.

Initial capital costs for a hydroponic operation were large, but Peter says traditional methods of farming are resource intensive and taxing on the environment. Hydroponic farming is a more sustainable way of farming, reducing the use of many unnecessary components of traditional farming, such as soil, pesticides and excess fertiliser. Additionally, using greenhouses means that crops are less susceptible to weather damage, reducing wastage.

"It also offers more precise growing," Peter says.

Hydroponic systems allow better control over supply, along with standardising crops and products. The

tabletop heights also reduce back injuries, and working in greenhouses means that staff avoid working in the rain or having harvesting hampered by weather conditions, he adds.

Asian greens grow well in the hydroponic system, with a small number of pests controlled by sticky insect cards.

Setting up a large number of greenhouses in 2020 offered a significant set of challenges posed by the Covid-19 pandemic and its many restrictions. As one example, Peter says a truck arrived on site from Christchurch with a large number of huge pipes that needed to be unloaded, but the building crews had already removed their machinery from the site. Thankfully Peter was able to source some help from the previous owner of the property, who used his tractors to roll the pipes off the truck.

It was a stressful start to the project, he says.

While the size of the pipes added some logistical challenges, Peter was relieved that their size allowed the greenhouses to avoid being flooded in last year's adverse weather events.

"If we can get through Covid, we can get through anything."



Gai Lan (Chinese broccoli) grown hydroponically

Produce is packed on-site, and rainwater supplies a large storage pond, also allowing for water from inside the greenhouses to be recycled. The business also completed building a new 9000 square metre distribution centre in Mangere in January.



**If we can get through Covid,
we can get through anything**

“We also import dragon fruit and pomelo from Vietnam, ginger and durian from Thailand, and so on. We are expanding our import operations, our cooler at the distribution centre is very big so we have room to expand. We’re also looking for more land to add greenhouses on.

“We do have a passion. We would like to change the way things are grown. You see how tomatoes used to be grown outdoors but are now all grown indoors, the same for capsicums and cucumbers.”

Now with several seasons under his belt, Peter says it has been heartening to see increasing interest in Asian greens. Their three most popular products are Shanghai bok choy, fancy lettuces and wong bok (Chinese cabbage).

“We’re here to make a dollar, but we want to offer Kiwis more options for their plates. Asian greens are nice



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Healthy & Fresh grow 26 varieties of Asian greens across 15 greenhouses

eating vegetables and many are quick to cook. In my heart, I believe that one day wong bok will take over from cabbage. I can see the growth in demand for wong bok. We are creating a market.”

Healthy & Fresh supplies supermarkets and fruit and vegetable stores across the country, including air freighting products to Queenstown. They are also supplying some chain restaurants.

He says the Kiwi palate has adapted to include more Asian greens, with a marked increase over the past five years.

Food kits like My Food Bag also help introduce more people to Asian greens, Peter says, with something like broccolini sometimes replaced with gai lan (also called Chinese broccoli or Chinese kale).

“It can be a good way to introduce new or different vegetables to people. They might be surprised to have it [in their box] but there’s no harm in trying it.”

Reflecting on his time in the produce sector, Peter says the early 1990s were a challenging time.

“The economic situation was so bad that restaurants were closing, so we set up fruit and vegetable stores because people need to eat. We expanded to eight stores in the Vege World days.”

Later becoming part of Fruit World, it became the biggest chain of fruit and vegetable supermarkets with stores across Auckland and south to Cambridge.

“My whole working life has been in produce, and I still enjoy it.”

Peter has also played a significant role in developing the Asian greens market working with others in the food industry like Foodstuffs to develop pack sizes and build up Asian produce categories.

Earlier this year Foodstuffs North Island head of produce and butchery, Brigit Corson told *NZGROWER* that Asian greens continue to grow in popularity with their customers, with an 19 percent increase in customers regularly buying Asian greens last year. Shanghai bok choy is the most popular produce with great supply year-round which helps drive sales.

Last season the business trialled growing watermelons to make the most of the quick growing time over the less busy Christmas period.



My whole working life has been in produce, and I still enjoy it



“They grow really well indoors, we control the temperature between 35 and 40 degrees Celsius, dropping to normal outdoor temperatures at night. The variance in temperature makes them very sweet. We give them enough water so they are very juicy compared with melons grown outdoors.”

Peter says growing watermelons in an existing vegetable system utilises the space that would otherwise be under-utilised. Hydroponically grown melons are cleaner, faster and don’t affect the soil.

He has discovered that some crops perform better if planted in an alternating pattern, and other crops require more space to flourish, while others need to be grouped closer together to grow evenly.

He says they are always learning, and enjoy experimenting with new varieties of crops and adjusting growing techniques. ●



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GARLIC'S BLACK AND WHITE STORY

Elaine Fisher



Noël and Teena Jelsma turn white garlic into black

As an added-value product, the ancient food black garlic is enjoying a resurgence in popularity, and one of the New Zealand companies producing it is based in rural Upper Moutere, Tasman District.

Behind the stainless steel, tightly secured door of the oven called DAVE, 1.2 tonnes of garlic cloves are slowly transforming from white to black.

The bespoke oven dominates Noël and Teena Jelsma's sparkling clean industrial kitchen built in a former tobacco kiln on their rural property in Neudorf Road, Moutere in the Tasman District.

"We call the oven DAVE because it's Dependable And Very Expensive," Teena explains.

Expensive as it is, the oven Noël designed and had built adds significant value to white garlic and to Neudorf Black, the company the couple bought and rebranded in 2020.

"It takes six weeks of slow cooking to create black garlic, which is so different from white garlic. I liken it to the difference between grapes and wine, except we add nothing at all to the garlic," says Teena.

What emerges from Teena and Noël's oven is indeed black, but it's not just the colour that changes. It's also the taste. The flavour notes of Black Garlic from Neudorf Black, says Teena, "are strong umami, reduced balsamic, tamarind, sweet, savoury and liquorice. It is sweeter than fresh garlic, and as it produces no aftertaste or bad breath, it can be used in sweet creations too".

Neudorf Black buys its white garlic from New Zealand's leading garlic and shallot grower Murphy's New Zealand of Blenheim, a company that also makes black garlic.

It's a food rapidly gaining popularity in New Zealand and enjoying a resurgence of interest internationally, but for many in Asia, it's been a part of their daily diet for centuries.

"Black garlic is an ancient food, and it appears slowly cooking white garlic was originally a way to preserve it when fresh garlic was no longer available," says Teena.

There's even a theory that garlic may have been buried in compost, where the heat would slowly cook and preserve it. Thankfully today's methods are far more high-tech.

Teena and Noël hadn't planned to buy a black garlic business when they considered their options after careers in sales and marketing in Singapore. "It pretty much fell into our laps."



Noël and Teena Jelsma with DAVE - their black garlic oven

When the couple were preparing to return to New Zealand, they bought a rural property on Neudorf Road, Upper Moutere, which was originally part of a tobacco farm and included a small olive and hazelnut orchard.

“It takes six weeks of slow cooking to create black garlic

“The appeal of the property, apart from its location in this wonderful region, was the old tobacco sheds which were leased out,” says Noël.

During visits to family in Nelson, Noël and Teena, who were familiar with black garlic from their time in Asia, had sampled black garlic products sold at the weekly Nelson Market and loved them.

“When we saw that the black garlic business, born in the Nelson Tasman

region, was up for sale we bought it. We knew nothing about the food industry but did not want black garlic, which is a unique, beautiful food, to disappear from this region.”

They bought the oven and the recipe plus the high value white garlic the previous owner grew. “However, we quickly realised we could never grow enough garlic to make the business viable. We also knew our strengths were not in growing but in sales and marketing, so we decided to buy in quality New Zealand garlic from Murphy’s,” says Teena.

Returning to New Zealand to begin a whole new venture was exciting, but Noël and Teena’s timing wasn’t great. The Covid-19 pandemic had just begun.

“It was not ideal, but the pandemic and its restrictions gave us time to hunker down in our ‘bubble’ and concentrate on our new business.”

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Rapidly growing in popularity around the world, black garlic has been part of Asian diets for centuries

As well as slow cooking the garlic and experimenting with recipes, the Neudorf Black website was designed and got up and running during that time.

Although neither Noël nor Teena have any formal food tech experience, they experimented with ideas, and often led by customer requests, have developed a range of products including black garlic purée, essence, sea salt, barbecue sauce, infused oil and black garlic honey.

The honey is so good it has won the Gold Outstanding Food Producer Award, Earth category 2024 and the Superfood category in the NZ Best of Natural Awards 2023.

Adding garlic to honey might seem a little strange but Teena says the honey is easy to use as a glaze, a marinade or drizzled over dishes. "The honey flavour is sweet, yet savoury. A spoonful stirred in warm milk or hot water makes a sweet, hearty tea."

As testament to the quality of their products, Neudorf Black garlic has been used on the TV show *My Kitchen Rules NZ*, and a number of chefs also buy its black garlic, adding it to their menu dishes.

Using local ingredients is a strong focus for Neudorf Black. "We use premium bush honey from our local beekeepers, South NZ Honey, who use some of our sheds as a base for their operations." Kakariki Olives of nearby Redwood Valley provides the oil for the black garlic infused olive oil.

Not long after starting out, Noël and Teena realised the original oven they bought was not big nor efficient enough, which is when the construction of DAVE was commissioned.

“

Slowly cooking white garlic was originally a way to preserve it when fresh garlic was no longer available

The new oven has reduced the time it takes to produce black garlic from ten weeks to six, and thanks to improved technology and construction, it is a more efficient consumer of electricity – even though it operates 24 hours a day for six weeks at a time.

The process begins with 1.2 tonnes of peeled garlic packed into large stainless steel pots, which are placed inside the oven. "Our process allows us to capture the garlic juice as well," says Noël.

"The oven is like a big bain-marie which slow-cooks fresh garlic under controlled conditions of low heat and high humidity."

The change in the garlic occurs through the Maillard reaction which is a chemical reaction between amino acids and natural sugars in food that produces new



Neudorf black garlic purée is among the company's most popular products

flavour compounds. With garlic, the cloves naturally turn black as sugars convert and the allicin (that gives garlic its sharpness) breaks down.

Black garlic doesn't have the sharp white garlic taste, but producing it creates an overwhelming garlic smell. "When we first open the oven, we have to wear a breathing mask and then leave the kitchen for a while, because it's so intense," says Noël.

Apart from the barbecue sauce, all of Neudorf Black's products are produced onsite in the complex of converted tobacco sheds, which is also where the couple welcome visitors and tour parties keen to learn about black garlic.

As well as online sales, Neudorf Black is sold by 75 stockists throughout the country. "We don't sell through many supermarkets but mostly through speciality groceries and delis. Black garlic is still quite new for many consumers and our product sometimes gets lost in a supermarket, but in speciality stores, staff can talk to customers about it."

Talking to customers and offering samples to taste is what Teena and Noël especially enjoy when they attend the Nelson Market each week as well as national food shows, and recently the Fieldays at Mystery Creek.

By bringing their black garlic business to Upper Moutere, Noël and Teena have joined a vibrant community of artists and artisan food producers who have helped them make



THE PROCESS BEGINS WITH
1.2 TONNES
OF PEELED GARLIC PACKED
INTO LARGE STAINLESS STEEL
POTS, WHICH ARE PLACED
INSIDE THE OVEN

the transition from the fast-paced corporate world in Singapore, to new careers in the food industry and quiet country living.

"This felt like coming home. We are not city people and have loved the support the Upper Moutere food and beverage community has given us as newcomers to the community and the industry as a whole.

"This is a beautiful part of the world to live and work in and the Nelson Tasman region has a fantastic reputation for its foods, beverages and natural beauty. We want to add to that and play our part in the reputation of the region as well." ●



ADDING VALUE TO VEGETABLES

Elaine Fisher



Grower John Murphy (second from left) has experimented with added value products and found success with black garlic

Creating certainty around where vegetable crops can be grown would be an impetus for adding value industry wide, believes John Murphy, chairman of Vegetables NZ and chief executive of Murphy's New Zealand, garlic and shallot growers of Blenheim.

"Making it easier for growers to do what they do well will add value to the industry. When you are worried that your consent activity may be in jeopardy, there is no way you have the mental space or financial confidence to try new things.

"We need to make sure vegetable growing as a permitted activity is nailed down as much as possible so growers can continue to grow in the right way and bring beautiful fresh product to market.

"Once that happens, it will take pressure off growers, giving them the confidence and mental space to innovate, including adding value to their products."

And, says John, within the vegetable industry, there is plenty of potential to add value.

"Nutritionally New Zealand's fresh vegetables are so good to start with. Systems like NZGAP (Good Agricultural Practice) ensure they are grown in environmentally responsible ways, that growers treat their staff well, love

the land the vegetables grow on and grow safe products. When you have products like that there is potential to add further value because New Zealand vegetables are truly special to start with."

Frozen fresh vegetables are an example of one way to add value and extend shelf life. It's also a means to lock in nutritional value and add convenience for consumers.

There's significant potential to add further value, but doing so can be costly. "It can be labour-intensive. The big question is does it take more work and more cost to produce a market-ready product that the consumer is prepared to pay more for than the fresh product?"

"There is no point to adding value if the new product sells at commodity prices and you receive less than you would for the fresh product. Growers need to be able to extract value. Achieving that can be difficult. To do that you need a willing retailer, and ultimately, consumers who value the product."

John's own company Murphy's has a successful added-value product - black garlic - but that's not the first it has tried. "We produced New Zealand peeled garlic, but it was worth no more than our fresh garlic and it cost us a lot to do it.

"The cost was offset by the fact we found a home for our second-grade product - but ultimately, every product needs to pay its way, or your growing operation suffers."

Ten years ago, Murphy's received an order from an overseas customer for process grade garlic. "And they wanted it cheap. We asked what for and the customer said black garlic. Our response was - what the heck is black garlic? When we found out we decided we'd like to produce it here."

Murphy's was told it would be impossible to do so. "That's when we became determined to produce black garlic because we had tried it and were blown away by its taste. When we looked further at its health benefits we were sold."

The next decade was spent researching and experimenting to perfect the cooking process. "We have just got the process right and are confident that our black garlic is the best in the world for taste and its nutritional properties."

"The key is to start with quality fresh garlic which has a clean taste and an appropriate brix level. What distinguishes New Zealand garlic from imported garlic is that it is not as bitter, which makes it ideal for black garlic."

“There is potential to add further value because New Zealand vegetables are truly special to start with

Murphy's turns virtually all its second-grade garlic into black garlic - but doing so comes at a cost because it's labour intensive. The second-grade bulbs are those with visual defects or cloves with some mould that needs to be removed from a bulb. "That makes it unacceptable to consumers who buy with their eyes and would reject a bulb with a gap."

The garlic is broken into cloves and peeled and then cooked for six weeks in a sealed chamber. "What emerges is a product which resembles garlic but is jet black and has a unique sweet and savoury umami flavour that adds a rich, deep complexity to a dish without overpowering it."

"The only ingredient is the garlic we have grown in the field. Creating black garlic turns a bulb which was worth very little, into something worth that of premium grade fresh garlic."

Among Murphy's clients are Noël and Teena Jelsma of Neudorf Black, Upper Moutere. "We both produce black garlic and though it's a relatively small market, manage to co-exist in that space. We are both increasing the knowledge and appreciation of black garlic among consumers."

The bulk of Murphy's black garlic is sold to the food service and manufacturing sectors, with some going to specialty food stores. A significant amount is sold via their online store. Before the Covid-19 pandemic, Murphy's black garlic was also exported to Australia, and there are plans to re-enter that market.



Creating world-class black garlic - from bulb to added value product

The challenge ahead, says John, is to convince consumers to use black garlic more often.

"Rather than just a special occasion food, we want people to use it whenever they put together a cheese platter. When they are cooking a dish and wish to add a wonderful balsamic flavour, we want them to reach for our black garlic." ●

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SOUTHERN HEMISPHERE'S LARGEST CELERY GROWER HAS 'NEVER PUSHED A TREE OVER'

Andrew Bristol : Vegetables NZ communications manager



Vegetables NZ's Daniel Sutton visiting a new 25-acre reservoir near Melbourne with grower Adam Schreurs

Adam Schreurs - the southern hemisphere's largest celery grower - has "never pushed a tree over" on the 1000-acre farm that he has developed from dairying over the past ten years.

"I've developed this property 100 acres at a time," he says. "During this period, I have never cut down a tree, and every year I plant around 10,000 trees. In all, we have about 100 acres of bush here, and there are always flowering plants that act as homes for the beneficials."

Adam has been a major proponent of integrated pest management for more than 30 years. Today, he uses no insecticides and minimal fungicides on his Middle Tarwin property, which is about two hours southeast of Melbourne, towards Wilsons Promontory.

The property is impressive and hard to imagine. Celery - and irrigation - for as far as the eye can see. On the day of this visit, there were five celery harvesting units in action. Each unit has been developed by Adam. Some wash, sort and box the celery while others stack the celery in large bins, ready for further preparation in the packhouse.

"I first visited this area when I was 12 and it had always stayed in the back of my mind," says Adam. "We ensure our soil is almost always covered - it is sometimes only fallow for a day but never for more than a week."

“

What's a win for me is also a win for the industry

"Our rotation is spinach, leeks and then celery, and then a cover crop. We spray off the cover crop with glyphosate using a drone. We are also constantly experimenting, for example, with direct drilling."

"Our focus is on maintaining organic carbon. We have been part of the Soil Wealth project for more than ten years."

In terms of integrated pest management, Adam says they use reverse leaf blowers to collect what's on the plants.

"We do an official count of beneficials once a week. We've graphed what we've found for years and years, so know our own thresholds."



The farm employs 175 people with a very low staff turnover

Massive reservoirs

During my visit with a colleague, Vegetables NZ research, development and extension manager, Daniel Sutton, Adam showed us a 25-acre reservoir that was nearing completion - one of four similar reservoirs, with another planned.

"This reservoir cost A\$1.8 million and took two years to build due to wet weather conditions. I can control all the farm's irrigation from my phone," says Adam.

"We collect all the water we can from the property, using silt traps and native grasses to purify it. I also have a permit to collect water from the river that runs through the property.

"We dig out our silt traps every three months. I can also prove that once water gets to our reservoirs, there's no nitrogen in it, thanks to the native grasses."

'What's a win for me is also a win for the industry'

Adam has intimate knowledge of the 1000-acre farm that he has masterminded over the past ten years.

Asked why he does what he does, Adam replies it's because he loves it.

"The doors are always open here. We share all our data through field days, webinars and we're now exploring virtual reality. What's a win for me is also a win for the industry.

"My next objective is certified organic growing. I am currently experimenting with three to five acres. But I am also looking forward to coming to the end of developing this farm, as for the past few years, I have been pushing people all the time."

Adam employs about 175 people across his whole business, a business he bought from family members in 2013.



A celery packing unit in action

"On this site, we have about 60 to 70 people, some of whom started with us at 16 and are still with us now they are more than 60. We are like a big family and we have very low staff turnover.



Our focus is on maintaining organic carbon

"I cook everyone bacon and eggs on a Monday when we discuss the week. Every other working day, we have a brief ten-minute meeting at the start. We also provide buses to get our people to and from the farm."

Adam says he's ahead of the regulatory curve. "We're doing none of this because we have to. We're doing it because it makes sense. How we are growing has also made us very attractive to the supermarkets, who really want what we grow. That wasn't always the case..." ●

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JACK HADDON

PUKEKOHE YOUNG GROWER 2024 RUNNER-UP

What started as an after-school job to earn money towards cars has led to a career growing in all the right directions for Primary ITO learner Jack Haddon.

Jack took out second place in the Auckland region's Young Grower of the Year competition in May, along with an additional accolade for best speech. The 21-year-old was one of seven contestants testing their fruit and vegetable growing knowledge, and the skills required to be successful growers. Each competitor had to complete modules including identification of plant pests and diseases, safe tractor driving, marketing, and giving a speech at the gala awards dinner.

Jack is completing an apprenticeship in horticulture (outdoor crop production) through Primary ITO, while working at Balle Bros Growers in Pukekohe. As one of the younger competitors, he was "over the moon" to be named runner-up.

“

I got bitten by the growing bug, I like knowing how things work with the biology and health of plants, and enjoy anything to do with chemistry

"I didn't think I'd do that well, so I was really stoked with the result," Jack says. "I'd heard about the competition at high school and a couple of my grower mates said it was a fun experience. It was a bit scary putting my name down for it, but what I have got out of it has made it really worthwhile. It's been a huge confidence boost."

Competition winner, Jamie Wells, 29, also works at Balle Bros Growers, making for a double workplace celebration.

The contestants had five weeks to prepare for the competition, with Jack referring to his Primary ITO learning resources to brush up on knowledge from earlier in his training.



Russell Kidd, SPS Seeds general manager, presents Jack with his second-place certificate. Photo: Yarn Creative

"I really wanted to nail the speech as it was worth double points. We had the topic of 'The importance of fresh produce in New Zealand culture and what we can do to embrace that'. I had put in a lot of practice and was feeling prepared, so it was really good to have that pay off."

At school Jack had a keen interest in science, but was leaning towards a career as a diesel mechanic. He had been working an after-school job at fruit and vegetable growers and distributors LeaderBrand Pukekohe to fund his love of cars. After gaining NCEA (National Certificate of Educational Achievement) level 2 and leaving school, Jack was offered a full-time position and soon after began his Primary ITO training.

"I got bitten by the growing bug," he says. "I like knowing how things work with the biology and health of plants, and enjoy anything to do with chemistry ... what nutrients different plants require, and the different processes involved in growing."

Jack is enjoying the wide range of topics that make up his apprenticeship. His level 4 training includes understanding the various rules and regulations that businesses have to comply with, looking at production goals, managing agrichemicals, and plant biology.

"Being able to work closely with my manager has been a massive help in gaining an understanding of how things work. My workplace is very supportive," he says.

Jack plans to keep learning, finish his apprenticeship and eventually move into business operations and team management. ●



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We are excited to offer the revised New Zealand Certificate in Outdoor Crop Production – Level 3. Learners can complete this programme as the first year of a New Zealand Apprenticeship.

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*Terms and conditions apply.
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POTATOES FEEDING THE WORLD

Kate Truffitt : Potatoes NZ chief executive



Potatoes have a huge role to play, not only in feeding New Zealanders, but also feeding the world's population and looking after the planet.

With New Zealand being a nation of potato lovers and with the favourable growing conditions we have, New Zealand growers can efficiently produce enough potatoes both for ourselves as well as for the export market. Undernourished people within a population is not only a developing world problem, it is also a first world issue, and potatoes play a key role in addressing this.

Potatoes grow in all sorts of conditions and produce more nutritious food, more quickly, on less land and in harsher climates, using less water than any other major crop. With a world challenge to ensure food security for present and future generations, while protecting natural resources that we all depend upon, potatoes are seen as part of the solution for world food security.

Potatoes NZ joined more than 900 delegates from over 40 countries in Adelaide, Australia for the 2024 World Potato Congress. Figures from "World Potato Markets" (www.worldpotatomarkets.com) show where the gaps and opportunities are for the potato industry worldwide. Asia is home to 59.1 percent of the world's population and 54.2 percent of the world's potato production by volume. Europe contains 9.3 percent of the world's population and grows 26.2 percent of the world's potato production. The interesting fact is that Asia consumes most of their potatoes whereas Europe exports a considerable amount, accounting for 70 percent of the world's potato trade.

On the world stage, potatoes compete with wheat, rice, corn and more recently cassava and soya. Worldwide we produce 380 million tonnes of potatoes, around 800 million tonnes of wheat and rice as well as a huge volume of 1.18 billion tonnes of corn. Potato yields in New Zealand are the highest in the world, giving us an advantage to produce more for export markets. New Zealand averages around 50 tonnes per hectare of potatoes, versus the worldwide average of 21 tonnes per hectare.



NEW ZEALAND AVERAGES 50 TONNES PER HA OF POTATOES, (WORLDWIDE AVERAGE IS 21 T/HA)

Percentage of world population, potato production and trade by region

	Asia	Africa	N. America	Europe	S. America	Central America/Caribbean	Oceania
% of world population	59.1	18.0	4.7	9.3	5.5	2.8	0.6
% of world potato production	54.2	7.2	6.4	26.2	4.7	0.7	0.5
% of world potato trade	6.0	3.1	17.1	69.2	1.3	0.3	0.5

Source: UN, UN FAOSTAT, WPM & Trade Data Monitor LLC

There is an expectation according to Dr Guy Hareau, chief economist at the International Potato Center, that the global harvested area of potatoes will increase from 17.8 million hectares to 19 million hectares by 2050, with production more than 480 million tonnes. Potatoes have a lot going for them in comparison to their competitors, such as high yield potential, a short growing cycle, a small carbon footprint. Potatoes can be produced locally for food security, they have added value potential, and are a highly nutritious and energy rich source of vitamin C, potassium and dietary fibre.

According to Blair Richardson from Potatoes USA, marketing to the younger generation is one of our main opportunities. They are the snacking generation and use social media for reference, looking to their peers rather than industry for information regarding food. They want an authentic experience, for example comfort food with a twist. They are learning to cook and research videos online and on TikTok, rather than more traditional sources like cookbooks and websites. They also eat out a lot, with 40 percent disposable income (in the United States). They love potatoes because they can eat and flavour them in many ways, they are a real food and potatoes fill them up. Barriers to eating potatoes are the carbohydrates as they may already eat enough, as well as choosing to eat other vegetables. Potatoes USA is twisting this in with the 'Potatoes Fuel Performance' marketing campaign and sharing real facts about potatoes.

Potatoes have come a long way and spread throughout the world since their first discovery in the Peruvian-Bolivian Andes mountains around 8000 and 5000 BC. They have grown to be a successful global food and a dependable crop. Potatoes today are not only changing the world, they are feeding the world, and will continue to do so for many generations to come. ●

! Fall armyworm alert

Fall armyworm (*Spodoptera frugiperda*) is now present in New Zealand. The pest is a threat to a number of different crops, including potatoes, although potato plants are not its preferred food source.

A harvested potato crop is unlikely to be infested with fall armyworm, however it is important for the potato industry to take care not to transfer the pest on to industry export partners. The most likely place fall armyworm may be found in potatoes is in a harvested crop at grading, specifically the pupa which may be in the soil attached to tubers.



Larva



Pupa



Pupa



Moth

SAVE THE DATES

POTATOES NEW ZEALAND ANNUAL GENERAL MEETING

DATE	Thursday 12 September 2024
TIME	5pm
VENUE	Hotel Ashburton

Potato growers are encouraged to attend to network, learn and share as well as have your say.

2025 NEW ZEALAND POTATO CONFERENCE

THEME	Innovating for the Future
DATE	12-13 August 2025
VENUE	Christchurch Town Hall

This will be a not to be missed event with industry leading speakers and engaging topics, in a stunning venue. Book it into your diary now. More details and booking information will be available closer to the time.

FASCINATING POTATO FACTS



85% OF THE POTATO PLANT CAN BE EATEN - WE DON'T EAT THE LEAVES



RICE, WHEAT AND MAIZE ONLY 50% CAN BE EATEN



CHINA IS NOW THE BIGGEST POTATO PRODUCER, AND ALMOST A THIRD OF ALL POTATOES IS HARVESTED IN CHINA AND INDIA ALONE



THE POTATO BELONGS TO THE SOLANACEAE OR 'NIGHTSHADE' FAMILY OF FLOWERING PLANTS, AND SHARES THE GENUS SOLANUM WITH AT LEAST 1000 OTHER SPECIES, INCLUDING TOMATO AND EGGPLANT



WATER NEEDED TO GROW 1KG OF



**RICE
3000 L**



**POTATOES
75 L**



**WHEAT
500 L**



POTATOES GENERATE 57 TIMES LESS GREENHOUSE GASES THAN BEEF AND 13 TIMES LESS THAN CHICKEN

Scientific American (February 2009)



THE POTATO IS A VERY EFFICIENT HIGH YIELDING PLANT, USING LESS WATER THAN COMPARABLE CROPS AND IS ABLE TO ADAPT TO ALL SORTS OF GROWING CONDITIONS

REMINDER: DEADLINE FOR PROCESS HEAT USERS

A reminder that due to law changes, from 26 January 2025, local councils will require any process heat users who are emitting more than 500 tonnes of CO₂ to apply for an air emissions consent. This will require an emission reduction plan for your growing site which looks at how you will reduce the emissions from your site with actionable targets. The thinking is that the local councils will be monitoring the targets to make sure that businesses are doing what they have laid out.

Fuel Type	Typical Units
Natural Gas	9400 GJ
LPG (liquid petroleum gas)	170,000 kg
Coal - sub-bituminous	250 Tonnes
Diesel	187,000 Litres
Waste Oil	170,000 Litres

Table 1: Quantity of fossil fuel used to reach the 500T threshold for needing a new consent

For more information, please look at the Vegetables NZ website:

www.freshvegetables.co.nz/news-and-events/news/new-industrial-process-heat-consent-requirements-affecting-covered-crop-growers



INDUSTRIAL ALLOCATION AND ENERGY EVENT FOR GROWERS

Dinah Cohen : TomatoesNZ business manager

If you are signed up to industrial allocations, you will be aware that the baselines have been recalculated and are likely to fall for all three greenhouse crops that currently have an allocation – tomatoes, cucumbers and capsicums.

The calculations used to work out the baselines are legislated, and the information gathered in the data collection late last year determined that tomato growers' yield has increased, while gas and coal energy use has decreased since the last data collection in 2010. This is why the baseline has fallen.

For some growers this will come as a huge shock and will be another added cost to production. TomatoesNZ is advocating on your behalf alongside Vegetables NZ and Horticulture New Zealand, asking the officials to postpone the changes in the baseline to give growers, especially those locked into energy contracts, time to secure alternative deals.

We are also asking for Emissions Trading Scheme (ETS) payments that growers have made and continue to make to be available for fuel switching work. There has never been a better time for you to consider the future energy use in your greenhouse.

Vegetables NZ and TomatoesNZ invite you to a supplier event on 12 September in Pukekohe. This has been organised to enable you to talk to suppliers of alternative heating and other energy reducing equipment. For more details about this event, please email ellery.peters@freshvegetables.co.nz

You can reach TomatoesNZ business manager Dinah Cohen on:
☎ 021 922 414
✉ dinah.cohen@tomatoesnz.co.nz



Korean workshop

Board member Jiny Kim organised a workshop for tomato growers who have Korean as a first language. The presenters covered various topics from the beneficial insect trial that TomatoesNZ is currently running, to using bees as pollinators, also irrigation, nutrition and chemicals for good growing. We would like to thank all of the presenters involved:

- Kim Martin from Zonda Beneficials
- Chris Thompson from Bioforce
- Lex Dillon
- Stefan Vogrincic from Grower2Grower

We would also like to thank Campbell Tyson chartered accountants for allowing us to host this event in their meeting room. Finally a huge thank you to Jiny for not only organising this event but also for translating all of the presentations!

If you are interested in organising a similar event in a different language, please get in touch and I can help facilitate this.



MARKET ACCESS KEY TO GROWTH

James Kuperus : Onions NZ Inc. chief executive



Minister McClay with Minister Sahat (chairman of the Indonesia Quarantine Authority) and senior officials

During the Onions NZ winter tour we met with members to refine our strategy. As a membership organisation, we believe it is important to ensure members and the wider community are aware of not only our priorities, but also what our position is on them. The Onions NZ strategy has been updated to reflect this. (Contact me for more details.)

A key change we have made is including in our mission statement the government's objective to double exports. The only variation to this is that we actually want to double the value of the sector (i.e. both domestic and export sales).

Indonesia

Over the last month, we have had two delegations from Indonesia visit in relation to the agreement to remove the entry requirement to fumigate New Zealand onions. The first visit was a technical audit visit to review our current practices and what is required to give Indonesia confidence.

The second visit was by Minister Sahat Manao Panggabean and senior officials from the Indonesia Quarantine Authority to sign the technical protocol taking a risk-based approach to managing quarantine pests, rather than fumigating. At the time of writing, we are awaiting final confirmation that we can get started. The Ministry for Primary Industries (MPI) have done an amazing job to engage with the Indonesian officials and resolve this issue in a timely manner.

Doubling exports

The government has set the objective to double exports. For the New Zealand onion sector, this will mean increasing exports from \$150 million per annum to \$300 million per annum by 2035. To achieve this, we will need to not only gain access to new export markets, but also increase our market share in existing key export markets.

In partnership with the Ministry for Primary Industries, Onions NZ has a Sustainable Food and Fibre Futures fund (SFFF) project titled "From Humble to Hero". This project is focused on opening new markets, improving consumer information, identifying unique selling points, improving on farm sustainability and supporting trial shipments.

As a sector, we are well placed to double exports providing we can improve market access in the near future. The graph in Fig 1 highlights the onion sector's exports to Indonesia over the last 23 years. In 2009-2010, there is a clear uptick in exports as the Australia ASEAN New Zealand Free Trade Agreement (AANZFTA) came into force, reducing tariffs and improving market access. This clearly demonstrates that the sector can deliver on exports when market access improves.

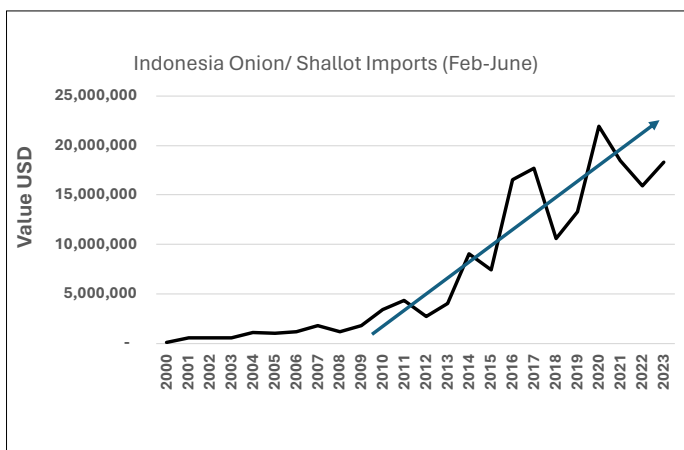


Fig 1 Indonesia's onion/shallot imports from New Zealand shows how the sector can deliver when market access improves

Market developments

Something I am frequently asked is what's happening in our markets? My two cents' worth is that in some of our export markets there is a swing from sustainability and 'nice to have' attributes towards low-cost producers such as Egypt and Poland. There has been high inflation in some markets and consumers are feeling the pinch, preferring to substitute certain products and where possible lower cost options. The good thing for the New Zealand onion sector is that onions generally speaking are recession proof, so it will come down to whether buyers will opt for lower-cost producers than New Zealand. The other consideration for New Zealand onion growers is the increased plantings in Europe, reportedly an increase of some 15 percent.

The counter perspective is that tariffs on New Zealand onions are now off in Europe, the United Kingdom, Taiwan and Japan. We are starting to see the benefits of this in our exports, and are very fortunate that our government has worked tirelessly to secure these Free Trade Agreements (FTAs). In particular, the FTA with the European Union will deliver benefits next season for New Zealand with the 9.6 percent tariff coming off part way through this year.

We also continue to see increased demand for New Zealand onions in South East Asia - which is a double-edged sword as we all know. Increased demand for exports is great, but it comes with political uncertainty.

All in all, there are some macro headwinds including shipping, the state of the economies of those markets we export into, as well as the competition generated by increased plantings in Europe. On the other hand, market access is improving. ●

For more details, contact:

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WHAT'S HAPPENING WITH ETS? POLICY CHANGES EXPLAINED



Emily Levenson : HortNZ environmental policy advisor

On 11 June, the government announced that they planned to “take agriculture out of the New Zealand Emissions Trading Scheme (NZ ETS)” and “establish a new Pastoral Sector Group to constructively tackle biogenic methane”.

This change does not remove all emissions associated with agriculture from ETS obligations. Rather, it removes all animal and fertiliser emissions, specifically methane and nitrous oxide. It does not remove any carbon dioxide emissions from fuel for farm equipment and freight, milk powder processing or heating greenhouses.

Just a month later, on 12 July 2024, the Ministry for the Environment (MfE) wrote to tomato, cucumber and capsicum growers to inform them of changes to their allocative baseline in a separate piece of policy work.

What is the allocative baseline?

Greenhouse growers who have carbon emissions from their heating sources pay into the ETS. All fresh tomato, cucumber and capsicum growers are eligible to receive free carbon credits through an “industrial allocation”. This programme recognises that New Zealand greenhouse vegetable businesses compete with overseas businesses that may not have to pay into an ETS in their country.

The allocative baseline determines the rate of free carbon credits growers of tomatoes, cucumbers and capsicums receive. The number represents the emissions per unit of product made. For example, the proposed new baseline for fresh tomatoes is approximately 1.5, which means that, on average, 1.5 tonnes of carbon dioxide equivalent (CO₂e) are emitted per tonne of tomatoes produced in New Zealand. The significant reduction in baselines shown in Table 1 reflects that industry emissions have decreased in the last 14 years, and production has gone up.

Why is the government changing the allocative baseline?

The law that governs the ETS gives the government the power to amend allocative baselines every five years. The baseline for vegetable growing hasn’t changed since 2010. The government decided last year to update baselines to address the fact that the number of free credits distributed does not reflect the changes in emissions or production over the last 14 years.



ROUGHLY 200 BUSINESSES GROW INDOOR TOMATOES, CAPSICUM AND CUCUMBERS IN NEW ZEALAND, ABOUT 60 PERCENT OF GROWERS WHO GROW VEGETABLES UNDER COVER

Activity	Baseline currently in 2010 regulations	New baseline
Production of fresh tomatoes	2.6006	1.4926
Production of fresh capsicums	3.6064	3.0027
Production of fresh cucumbers	3.4461	0.7695
Mean	3.2177	1.7549

Table 1: July 2024 updates to allocative baseline for vegetable products

How did the government decide the new allocative baseline?

The allocative baseline is calculated using a formula laid out in the Climate Change Response Act 2002, based on the average emissions per tonne of production MfE determined from a survey of growers before Christmas last year.

Industry data suggests that greenhouse emissions decreased by 30 percent between 2020 and 2024. Some big emitters who used coal for heating have stopped operating. The rest of this reduction came from growers who made efficiency improvements or switched fuel sources. Several large businesses installed new biomass boilers and thermal screens with the help of funding from the Energy Efficiency & Conservation Authority (EECA). Examples include Southern Belle Orchard, which installed dehumidifying technology in two greenhouses to reduce humidity without having to open vents and lose heat, and

Activity	Value of industrial allocation per tonne vegetables, with 2010 baseline	Value of industrial allocation per tonne vegetables, with new baseline	Percent reduction
Production of fresh tomatoes	\$74.27	\$42.63	43%
Production of fresh capsicums	\$103.00	\$85.76	17%
Production of fresh cucumbers	\$98.42	\$21.98	78%
Mean	\$91.90	\$50.12	45%

Table 2: July 2024 estimated value of industrial allocation per tonne vegetables produced, assuming \$51 carbon price

JS Ewers, which installed thermal screens. EECA estimates that over 200 hectares of commercial greenhouse operations in New Zealand could save energy using thermal screens.

How many growers are affected?

Roughly 200 businesses grow indoor tomatoes, capsicum and cucumbers in New Zealand, about 60 percent of growers who grow vegetables under cover. The changes in the allocative baseline mean that eligible growers will, on average, receive 45 percent fewer carbon credits through industrial allocation per tonne of vegetables they produce.

What is HortNZ advocating for?

Horticulture New Zealand is calling for the establishment of a Sustainable Food Systems Fund to reinvest ETS proceeds in greenhouse decarbonisation to support this transition.

HortNZ is asking government to delay the allocative baseline change until funding is available, no earlier than July 2025, to allow time for gas contracts to expire and for growers to make fuel or efficiency changes. Energy-switching is prohibitively expensive, particularly for small and medium-sized growers. ●



Watermelon

We have a good range of watermelon from round dark skin canon ball types to striped oval family fun varieties and plenty of options in between. Our range includes seeded, seedless, mini pip, pink/red or yellow flesh.

Range of sizes from 1kg personal melons to up to large 8kg ones if you have somewhere very warm to grow them! Ask about our **CANDY, SUGAR** and **SEEDLESS** ranges.

Olmec

1.6–2kg blocky-oval shaped sutured rockmelon, with mild ropey net and small cavity. Firm, excellent flavour, aroma and colour with brix 12–14%. Productive, mid maturity, main season, LSL. HR: Gc:1–2, Fom



Chavez

New clubroot tolerant, warm season harvest addition to our broccoli range. High firm dome. Suits fresh cut or trimmed, easy to peel. Uniform maturity with a high % first cut. Outstanding clubroot tolerance produces clean, strong plants.

Baron

New to our pumpkin range Baron is early maturing, averages 3.5–4kg, has a small seed cavity, and vibrant orange flesh. Skin is blemish free. Maturity between Pacific King and Invincible.

Titan

With maturity similar to PLK types, Titan is very uniform and has the ability to produce excellent yields due to its strong vigour. With good skin retention and three good skins, this onion has excellent shipping and long storage capabilities.



FUTURE OF ASSURANCE



Damien Farrelly : NZGAP manager

The need for a one-stop-shop certification programme like NZGAP (Good Agricultural Practice) has never been greater. Increasingly we are seeing new market and regulatory requirements, while the timeframes in which these are expected to be met are becoming shorter.

In the past it took two to three years for overseas market signals to be faced by New Zealand growers. The timeframe is now 12 months or less which is challenging for growers, auditors and NZGAP alike. On the regulatory side, growers are increasingly needing to demonstrate compliance. A robust assurance programme such as NZGAP supports growers to protect their social licence to operate both at an individual and a collective level. Regulatory change can be rapid or take a very long time, therefore having a GAP programme that meets or exceeds the current or proposed requirements can give growers confidence for the future of their business.

“

A more technology-enabled approach can be expected over the coming year, starting with a new NZGAP public register which is being launched in the coming weeks

There is a need to revise how assurance is being provided given that the market and regulatory expectations have evolved considerably, especially with a significant increase in transparency and reporting requirements. NZGAP

pushes back strongly on any data sharing and reporting that is not focused on outcomes (e.g. requests for farm inputs). From our perspective, this defeats the purpose of independent certification. When necessary, NZGAP does act as a conduit for data sharing between the grower and the market or regulator to minimise the administrative burden for growers. The need for this conduit and for transparency continues to increase and the way information is collected, stored and shared continues to evolve.

To remain credible and relevant, NZGAP will need to be aware of new consumer, market and regulatory expectations, and be agile in responding to these signals to ensure the certification programme remains recognised for the benefit of growers. Adoption of Environmental, Social and Governance (ESG) frameworks is being led by retailers, banks and investors, which is also a driver for new or revised assurance and reporting systems.

Growers need a user-friendly interface that simplifies requirements, increases clarity, minimises complexity and removes duplication. The rapidly changing technology landscape with farm management systems and value chain data capture will be significant drivers of future assurance design and delivery. This includes the increasing capability of technology enabled self-assessments, blended audits, remote audits, data sharing and reporting. NZGAP is exploring tools which enable a technology driven approach to assurance. These will be trialled over the coming year to ensure they are user friendly, integrate effectively and have added value for growers.

The future of auditing also needs careful consideration given the changing standards and technology landscapes. The increasing scope and complexity of audits impact on both the competency required of auditors and the duration of the audit. The latter issue can be supported



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by the blended audit approach where documents are checked off-site in advance, thus minimising the on-site time for the grower with the focus being interview and visual checks. The former issue is more of a wicked problem as a 'one auditor up the drive' approach will lead to auditors needing a wide breadth and depth of expertise across many certification programmes. Alternatively, two or more auditors could cover multiple programme requirements where the auditors are more specialised in one area (e.g. food safety), though this would add significant cost to the audit. A third approach currently being considered is a hybrid audit where one general auditor completes the on-site assessment, then reports back to one or more technical experts for the relevant programmes. This approach is potentially the best of both worlds, although there is significant development needed to make this option a reality in New Zealand horticulture. There will also be considerable barriers to this approach, given the prescriptive nature of regulatory and market requirements which have to be met. These prescriptive requirements can hinder progress on developing and implementing innovative approaches to assurance for standards, audit, data and reporting.

“
NZGAP supports growers to protect their social licence to operate both at an individual and a collective level

The NZGAP team works continuously to evolve our programmes to align with regulatory and market requirements as well as the latest best practice guidelines. The certification programme reviews currently underway will lead to a simplified standard with increased clarity for users. A more technology-enabled approach can be expected over the coming year, starting with a new NZGAP public register which is being launched in the coming weeks. The long-term future is less certain, however, I would like to encourage further collaboration and engagement in this space to help NZGAP and our sector navigate these challenges and opportunities. Together, we can ensure ongoing trust in horticulture and the empowerment for growers to do what they do best - produce incredible fruit and vegetables, safely and sustainably. ●



TOGETHER, WE CAN ENSURE ONGOING TRUST IN HORTICULTURE AND THE EMPOWERMENT FOR GROWERS TO DO WHAT THEY DO BEST - PRODUCE INCREDIBLE FRUIT AND VEGETABLES, SAFELY AND SUSTAINABLY



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TREAT YOUR BOUNDARIES LIKE THE NEW ZEALAND BORDER

Anna Broxham : Horticulture Executive Services Ltd biosecurity manager



Hundreds of visitors tramp over the demo farm's experimental paddocks, making it ideal to highlight the importance of biosecurity

Good levels of hygiene are not only important for good crop health but also a cornerstone of good biosecurity practice.

In a perfect world, each farm would treat the boundaries of their own land, paddocks or greenhouses with the same meticulous care as we treat the New Zealand border. In a new initiative at the Pukekohe Demonstration Farm, on-farm biosecurity practices are taking centre stage.

The primary New Zealand legislation governing pests and diseases is the Biosecurity Act (1993), which focuses mainly on preventing incursions at our national borders. This is supported by the Government Industry Agreement for Biosecurity Readiness and Response (GIA) to help government and industry work together to make decisions about preparing for any harmful organisms that do enter, and any necessary responses. However, there are no regulations specifically governing how to keep individual farms and growing areas within the country safe from pests and diseases day-to-day.

Using farm boundaries allows farms and greenhouses to set controllable zones in which quarantine controls can be put in place in the event of an incursion. However, this strategy is only effective if stringent hygiene processes are a part of everyday practices between each zone before the invasive pest arrives.



Growers are implementing best practice biosecurity measures on their farms

Covered crops benefit from containment in artificially controlled ecosystems, with movement controls which significantly reduce the risk of external contamination. In contrast, arable farms face additional challenges of environmental factors such as wind, rain, and the movement of people and equipment, all of which can spread pests and diseases.

Despite these differences, the commitment to maintaining high hygiene standards is the basis that ensures the health and productivity of all farming and growing systems.

Biosecurity hygiene specifically aims to prevent the introduction and spread of pests and diseases among crops. Equipment such as pruning tools, irrigation systems, tractors, harvesting tools, footwear can all be vectors for spreading pests and diseases. Cleaning these items after each use and sanitising in an effective solution destroys pests and microscopic pathogens, creating a barrier to unwanted spread.

There are plenty of examples of biosecurity practices throughout the country. New Zealanders are familiar with washing their footwear when travelling between kauri forests to prevent kauri dieback disease. The same principles should be adopted on farm.

To help prevent the risk of this spread, after working in paddocks or greenhouses, all organic material should

be removed, and footwear should be disinfected with an appropriate chemical to kill microorganisms. This practice helps contain potential spread, especially if growers are unaware of existing pathogens. Best biosecurity practice involves treating each farm block or greenhouse as an individual boundary with its own border practices. If possible, each zone should have spare sets of boots and equipment to help contain any potential spread of pathogens.

This approach mirrors the stringent hygiene measures in hospitals, restaurant allergen practices, and any strict border practices where maintaining cleanliness across different areas and tools is crucial for overall safety.

At the Pukekohe Demonstration Farm hundreds of visitors tramp over the experimental paddocks, exploring firsthand the research results to implement on their own farms. This creates a heightened risk of these individuals inadvertently bringing in and taking out unwanted diseases.

This situation makes the farm an ideal place to teach visitors about the importance of biosecurity, and how easy it is to adopt the practices on their own farms. Ten notices have been erected to inform people of the requirements for being on the farm.

They direct visitors to a vehicle cleaning hardstand and a boot cleaning station next to the main office. The boot cleaning station is about to be upgraded to a state-of-the-art version. A noticeboard is due to be put up on the wall of the main office in which up-to-date biosecurity information and upcoming events can be advertised.

“**This situation makes the farm an ideal place to teach visitors about the importance of biosecurity, and how easy it is to adopt the practices on their own farms**”



There is also the future possibility of working with universities to conduct entomology surveillance studies within the farm, which is another cornerstone of biosecurity.

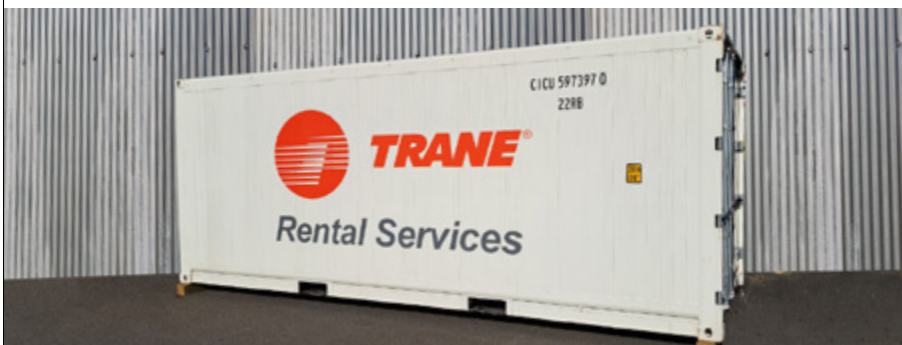
Biosecurity is everyone’s responsibility and by showcasing that we are doing our part, we hope to encourage others to implement similar procedures. ●

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LACK OF EDUCATION HAMSTRINGS BIOLOGICALS GROWTH

Gina Jewell : A Lighter Touch senior communications manager



Panel discussion at the Biologicals Summit in California: Prof Richard Newcomb, chief scientist at Plant & Food Research; Livia Esterhazy, Programme director at A Lighter Touch; and Dr Louise Sutherland, project development director at Ceres Agri-Tech UK

Giving growers more crop protection tools is not just about finding new crop protection solutions like biologicals – education on how to work with them is also essential.

That was one of the key takeaways for A Lighter Touch (ALT) programme director Livia Esterhazy, who along with ALT programme manager Sarah Sorensen, attended the second annual Biologicals Summit, held in Salinas, California in June.

Hosted by Western Growers, one of the largest produce grower groups in the world, and New Zealand agritech consultancy Wharf42, the summit attracted local and international attendees, including scientists, multi-national agrichemical companies, agtech investors, crop protection advisors, farmers and growers, and regulators.

Livia says data presented at the summit showed sales of biological products globally is two to three times faster than the growth rate of conventional chemistry, and biologicals are predicted to overtake synthetic chemistry sales by 2040.

“However, the biggest barrier to increased use of biologicals is growers not knowing how to integrate

them on farm. Education is now a key priority for the industry in California – they recognise that about 50 percent of farmers and growers are not using biologicals because they don’t know enough about them, and that is a major factor holding back uptake.”

“**Lack of knowledge, that is the big elephant in the room here**”

Agbiotech expert Dr Pam Marrone told the summit that while there have been and still are many exciting biological technologies available, the industry’s “most important work” is at the grower level, to educate and show the value and return on investment of biological products.

“Lack of knowledge, that is the big elephant in the room here,” she told delegates. “We have not got past this half of growers who don’t know about biologicals, despite all the things we’re doing in education.”

This discussion is particularly relevant for A Lighter Touch, given the programme’s Industry Stakeholder Advisory Group has made education and extension a strategic priority for the remaining three years of ALT.



ABOUT **50%** OF FARMERS AND GROWERS ARE NOT USING BIOLOGICALS BECAUSE THEY DON'T KNOW ENOUGH ABOUT THEM



SALES OF BIOLOGICAL PRODUCTS GLOBALLY IS **TWO TO THREE TIMES FASTER** THAN THE GROWTH RATE OF CONVENTIONAL CHEMISTRY

"Our product group partners have been very clear, finding new crop protection solutions is only half the story - effectively extending that knowledge to growers to ensure they are used is just as important, otherwise they'll just sit on the shelf," Livia says.

In addition to learning about the latest developments globally in the biologicals space, the summit was also an important opportunity for A Lighter Touch to connect with regulators globally, with a view to learning what is working in the regulatory space internationally that could be of interest to New Zealand.

"It was clear that many countries are having challenges with their regulatory approval processes for biological products. Brazil is the exception the whole world is now

looking to, with a new biological registration timeframe of between eight and 12 months."

Brazil has registered about 500 biopesticides in the last nine years, resulting in rapid growth in sales of biologicals. Use is doubling every two years, led by row crops, such as soybeans and maize.

"We made some really good international connections in the regulatory space to inform our work focused on improving access to new biologicals."

Livia also presented at the summit, providing an overview of the A Lighter Touch programme as part of a panel discussion about global efforts to encourage greater use of biopesticides.

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“Interest in the A Lighter Touch programme was huge from other countries. There is nothing like it anywhere else, and we had delegates from the United States, the United Kingdom, from Europe and Australia, all wanting to know more about the programme and how it works.”

The demonstration aspects of A Lighter Touch were of particular interest to delegates. It was clear both from discussions at the summit and from farm field visits, that the biodiversity work being undertaken in New Zealand is world class.

“From what we saw in California, the biodiversity projects we have underway as part of A Lighter Touch are more advanced in terms of development of the science underpinning them, and in providing growers with resources to aid with establishing their own biodiversity planting on farm or orchard.”

The sheer scale and size of farming operations in Salinas left a lasting impression. “It is just so vast compared to our operations here in New Zealand - 168 acres of greenhouses for example, or a medium-sized farm that’s 12,000 acres! Incredible,” Livia says. ●

BRAZIL HAS REGISTERED ABOUT **500** BIOPESTICIDES IN THE LAST NINE YEARS, RESULTING IN RAPID GROWTH IN SALES OF BIOLOGICALS



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Wharf42's Peter Wren-Hilton (second from left) with Plant & Food Research's chief executive Mark Piper, business manager Miriam Hall and chief scientist Richard Newcomb. Photo courtesy of Plant & Food Research

TRIALS AIM TO SUPPORT UPTAKE OF BIOLOGICAL CONTROLS



Plant & Food Research has joined the Platform10 initiative that aims to speed up the development of new biological control products.

Platform10, a new international collaboration that emerged from the 2023 Salinas Biological Summit, has partnered with Plant & Food Research to conduct field trials in New Zealand working in the counter season to trials in the United States.

“Platform10 was formed to help give growers confidence in adopting new biological alternatives to pest and disease control as global regulations around pesticide use tighten,” says Peter Wren-Hilton of Wharf42 on behalf of Platform10.

“By providing a mechanism for growers to engage at the research phase through field trials, we hope to increase understanding and uptake of these new biological products.”