



Sharing the summerfruit story

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Déjà vu

We were extremely lucky to be able to hold a successful Horticulture New Zealand conference at Mystery Creek at the end of August, with over 700 people attending.

By Barry O'Neil
President : HortNZ

The conference was a fantastic opportunity to engage on key policy changes that are being rolled out, with some great speakers and interactive sessions highlighting this. The focus on well-being and mental fitness was a timely reminder of how important it is to be looking after ourselves and supporting each other given the challenging times. Not only with Covid-19 lockdowns, but with the environmental pressures, regulations and the government's change-agenda - which can feel difficult and overwhelming.

It wasn't long after that we were reminded of the importance of well-being and resilience once again, as the government announced that the country would plunge into yet another Level 4 lockdown.

While lockdowns are now too familiar territory, it felt different this time. We knew exactly what we were facing, especially with the more contagious Delta variant.

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While lockdowns are now too familiar territory, it felt different this time. We knew exactly what we were facing, especially with the more contagious Delta variant

While we can all grumble and politic about the time it has taken to get our vaccine programme happening at pace, it is now full on and as a country, in the interim, we have managed to continue to live a relatively normal life since our first lockdown. Importantly, let's not forget that only 27 people have died of Covid-19 in New Zealand, compared to Ireland, a similar size country, where 5,160 people have tragically passed away.



I absolutely have no time for the blatant rule breakers, for the anti-vaxxers and their whoopy conspiracy theories and even with the people who refuse to wear a mask with no justification. People that fit this category to me are not dissimilar to the Donald Trumps, the Jair Bolsonaros, or the Alexander Lukashenkos of the world and their looney ideas.

To me the one matter that should be at the top of people's - and growers' - minds is vaccinations, for themselves, their family, their workers and their communities. Those who are unvaccinated are 30 times more likely to be hospitalised with Covid-19. And it's encouraging to see countries around the world, such as Denmark, which has over 80% of its eligible population vaccinated, removing restrictions with life returning to normal.

In New Zealand, less than 45% of the population is fully vaccinated and we still have 25% that are unvaccinated. Rural regions in particular continue to have poor vaccination rates.

Lockdowns come at huge costs to our well-being, to our whānau, to our connectedness and to our livelihoods and businesses. I don't ever want to see another Level 4 lockdown in New Zealand and it's up to us to make sure this doesn't happen.

The vaccine is here and freely available so we must do better than this if we are going to get out of this déjà vu.

“

Lockdowns come at huge costs to our well-being, to our whānau, to our connectedness and to our livelihoods and businesses



...the one matter that should be at the top of people's – and growers' – minds is vaccinations, for themselves, their family, their workers and their communities

It has been fantastic to see our growers stepping up, operating throughout alert levels and continuing to be the backbone of our nation – supplying communities with fresh fruit and vegetables, even in challenging times like these.

Product groups have been working hard, collaborating with Nadine and the rest of HortNZ to support our growers through the lockdowns, particularly with the new challenges that a Level 4/2 border created. While we didn't get everything we argued for, we did a heck of a lot better than if we had gone our own ways. The Ministry for Primary Industries (MPI) really lifted its game as well, so many thanks to Ray, Penny and the MPI team for their continued support.

“

...a big shout out to our Auckland colleagues who have done it really hard over the last month

Please look after yourselves and each other during these difficult times and a big shout out to our Auckland colleagues who have done it really hard over the last month, making big sacrifices so the rest of New Zealand was able to get back to business sooner.

Kia kaha. ●



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The case for fundamental change

As I reflect on the past seven weeks, it has become obvious to me that as an industry, if we try to return to pre-Covid days, we will no longer lead the world in sustainable, fruit and vegetable production.

By Nadine Tunley : HortNZ chief executive

In mid-September, I joined a Zoom call with counterparts in the United Kingdom's horticulture industry. They are facing the same issues as us - labour, labour and labour - but on a far bigger scale. Over there, they need 70,000 to 80,000 seasonal workers but only have access to 30,000, albeit from more than 30 different countries. The size of this labour shortfall is escalating wages. For example, growers are having to pay up to £30 an hour to the workers harvesting broccoli.

Packhouses are also in intense competition for staff, being 20% to 35% down in staff numbers. That's seeing employers standing outside the gates of other companies, offering their staff incentives of up to a pound an hour if they swap employers.

I share this brief outline of what is happening in the United Kingdom because I believe our industry has the chance to make sure the worst of what I have just described does not happen in New Zealand and have

a long term, negative impact. But to do that, we need to be serious about not returning to the good ol', pre-Covid days - if we ever could. We must come together to find truly innovative ways to meet our challenges head on.



In our favour, we have our industry's track record of innovation. Indeed, I believe horticulture is the most innovative part of the food and fibre sector. This is because we've never been able to hide from consumer demands - not that we've ever wanted to - because our product goes from tree, vine or the ground straight into consumers' mouths.

It is our reputation for great taste, quality, health and food safety that has also earned us the price premiums and outright demand which New Zealand fruit and vegetables command in overseas markets. I also personally have no desire to eat imported produce and do not believe that



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tomorrow's, let alone today's, New Zealand consumer really wants to either, even if it was a viable option like it is in the United Kingdom.

“

As an industry, we are resilient but need to focus that resilience on trailblazing a bold, new future

Definition of insanity

Albert Einstein is famous for saying: 'the definition of insanity is doing the same thing over and over and expecting different results'. I feel that is where the world is getting to with Covid. I also feel that New Zealand – and particularly, our industry – has a real opportunity right now to develop competitive advantage and solve issues like labour that have plagued us for some time. But only if we put the past behind us and think about the future in completely new ways.

As an industry, we are resilient but need to focus that resilience on trailblazing a bold, new future. While Robert Muldoon's Think Big has been much maligned, at the time, it represented a call for New Zealand to get serious about recharting its future and thinking differently.

As an industry, we need our best and brightest to come together to chart the future, while at the same time, finding ways to solve current and future challenges, particularly around labour, freight, cost and compliance. But I am not suggesting another group or an endless series of Zoom meetings.

What I am envisaging is a ground up movement, where district associations and product groups play a role in harvesting their members best ideas and bringing them to the table, so they can be packaged into a cohesive approach and plan, that's all about our industry charting its own future and success.



If this is of interest, please drop us an email via Covid@hortnz.co.nz, and HortNZ and I will work with you to make it happen. If you don't think this is a good idea, please also drop us an email and tell me why it isn't, while at the same time telling me what you think would be better.

Staying the same is not an option, Covid has changed the world forever. We can either use this opportunity to take our industry to the next level or go "insane".

I really look forward to hearing from you. ●



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INDUSTRY WIDE ISSUES FOR INDUSTRY GOOD

Natural resources and environment

By Michelle Sands : HortNZ environment manager



Horticulture New Zealand Board Future Director

Horticulture New Zealand is seeking a Future Director to serve and gain experience on its board. The year-long appointment commencing in January 2022 would allow the successful appointee to gain experience in governance, leadership and strategy. This position will suit an applicant who has active involvement in a horticultural enterprise giving an understanding of the issues and challenges that horticulture and growers face. This is a great development opportunity for a future leader with a genuine interest in governance. The Future Director will have the opportunity to be mentored by an industry leader and receive governance training. In making the selection, HortNZ's diversity policy will be taken into account.

The job description can be found at hortnz.co.nz/about-us/work-for-us. If you are interested in this role, please send your CV and a cover letter to Kerry Norman at kerry.norman@hortnz.co.nz. Applications will close at 5pm, Thursday 4 November 2021, with the successful candidate undergoing induction in January 2022 and attending their first board meeting around February 2022.

Otago Regional Policy Statement

The Proposed Otago Regional Policy Statement 2021 sets the direction for future management of Otago's natural and physical resources. The proposed Regional Policy Statement provides high-level guidance by way of policies and objectives and establishes the framework for Otago's regional and district plans in which resource management policies, objectives and rules will sit.

HortNZ has worked with growers to develop a submission on behalf of all Otago growers. Key issues raised in the HortNZ submission included:

- People are part of the natural environment. Natural environmental limits should account for the essential human health needs of people. The social, economic and cultural well-being of all people must be provided for within natural environmental limits.
- Food security is a nationally important issue which needs to be addressed at a strategic level, it is integral to human health.
- Diversification of horticulture presents an opportunity to reduce greenhouse gas emissions.
- Highly productive land (HPL) should be recognised to promote its use (for primary production), as well as to protect it from inappropriate subdivision.
- Growing fruits and vegetables in all regions of New Zealand, including Otago, is reliant on reliable supplies of fresh water.



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Fax: 04 471 2861

Selwyn District Plan

Selwyn District Council publicly notified the Proposed Selwyn District Plan on 5 October 2020.

Horticulture New Zealand worked with growers to develop a submission. HortNZ is currently participating in the hearing process. Key issues raised in the HortNZ submission included:

- Greater recognition (and protection) of the soil resource.
- Provisions for activities and buildings/structures that are an inherent part of horticulture – including seasonal workers' accommodation, artificial crop protection structures, and packing and processing facilities.
- Strengthening of the reverse sensitivity management methods.
- Rules that enable a rapid biosecurity response should the need arise.

“

Rules that enable a rapid biosecurity response should the need arise

Freshwater Farm Plans

The government is consulting on their Fresh Water Farm Plan Discussion document, which responds to the Resource Management Act (RMA) amendment in 2020. The RMA sets out a process for regulated certified and audited Freshwater Farm Plans that would apply nationally.

Horticulture New Zealand has worked with growers and GAP (Good Agricultural Practice) schemes to develop a submission on behalf of all growers. Key issues raised in the HortNZ submission included:

- The horticulture sector in New Zealand has had farm level assurance systems (GAP) for over 20 years.
- HortNZ supports Integrated Farm Planning. Critical to the success of Integrated Farm Planning is a common assurance framework. GAP is a working example of an integrated farm planning framework.
- The submission seeks an approval system in the regulations to enable Industry Assurance Programmes (such as GAP) to support the delivery of certified Freshwater Farm Plans.
- The submission seeks to enable an alternative pathway for certification and audit via approved Industry Assurance Programmes (such as GAP), including recognition of certification against a standard and the group model of certification. ●

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On-farm biosecurity series: People

BIOSECURITY
FEATURE

People come and go regularly from horticultural farms and orchards and have likely visited a range of different places before arriving at your operation.

By Anna Rathé : HortNZ biosecurity manager

Precautionary actions can be taken to minimise any biosecurity risk associated with people coming onto your property. The movement of people and the actions required of them 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 that is available online. Some of the common risk areas associated with people are explored on the following pages, along with risk reduction actions for you to consider.



Staff and visitors

Consider who visits your property – likely a wide range of people such as staff, suppliers, advisors, crop scouts, contractors, transport providers, guests and possibly also people living on the property. Anyone coming onto your property can inadvertently carry pests, pathogens or weed seeds with them on their clothing, footwear, vehicles or even skin.

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Anyone ...can inadvertently carry pests, pathogens or weed seeds



Cleaning footwear before entering a site may help prevent the spread of pathogens

Consider the risk posed by each visitor before you decide whether to let them onto your site or not – ask them what type of properties they have recently been on and whether they can provide assurance that their clothing, hands, shoes, vehicles and equipment are clean. Provide cleaning facilities, including footbaths containing an appropriate sanitising product to prevent the spread of pathogens that may be on footwear. You may also wish to provide clean clothing and footwear for visitor use on site.

It's useful to limit access and parking to a single point on your property so people's movements are contained to one part of the site. Limit visitor access to crops and production areas unless essential. Be sure to keep a visitor log so that you have a record of who has been on the property. This is invaluable if a biosecurity event occurs and forwards or backwards tracing is required.

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Communicating your requirements and expectations

Make sure your biosecurity expectations are clear to all visitors and staff.

Don't assume that they already know good biosecurity practices. Use clear signage to convey key instructions. As contractors, advisors and crop scouts often move straight from farm to farm or orchard to orchard, there is a higher risk that they will transfer pests, pathogens and weeds if biosecurity risk management practices are not followed. Take extra care to discuss your expectations with these types of visitors, focusing on the following points:

- The biosecurity practises you want them to implement.
- How you can check that they are undertaking these practises.
- Contractors who follow good biosecurity practises generally take more time – what level of risk are you prepared to accept?
- Whether biosecurity requirements can be included in contractual arrangements.



Training

Staff are likely to spend a lot of time on site, and providing training ensures they have a good level of biosecurity awareness and understand what is required of them. Training could include:

- Expected day-to-day biosecurity practises. You can put posters up in common areas to keep good biosecurity practises front of mind for staff.
- Knowing what to look for (what is normal and what is unusual). Many product groups provide information on the highest risk exotic pests for the crop, information which is useful to have on display.
- How to keep good records of your farm inputs and outputs to allow trace-back and trace-forward if a biosecurity event occurs.



Reporting

Early detection of any new exotic organisms is essential if we are to maximise the chances of successful eradication. Encourage a culture of reporting suspect pest, pathogen or weed detections via the Ministry for Primary Industries pest and disease hotline **0800 80 99 66** and ensure all staff are familiar with the signs and symptoms of pests and diseases of concern.



In conclusion

The above is not an exhaustive list. You should identify any additional people movements and actions that take place on your property and think about how to minimise any potential biosecurity risk that they may pose.

“

Make sure your biosecurity expectations are clear to all visitors and staff

Disclaimer: While every effort has been made to ensure the information in this publication is accurate, Horticulture New Zealand 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. ●





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Agribusiness offers job security

By Elaine Fisher

Those employed in New Zealand's agriculture and horticulture sectors will never have to worry about jobs, so long as they keep up with industry innovations, says Deb Francis, principal of AgRecruit.



Deb Francis, principal of AgRecruit

"Technology is changing the sector quickly but so long as people, no matter their age, are keeping up their learning and understanding, they will always have work," says Deb who founded the recruitment company AgRecruit 14 years ago. She is also a member of Women in Horticulture.

Thanks to technology, future jobs may be more specialised, pay more and involve less hours worked. "For example, someone who has been picking apples may be trained to operate a machine which does that role instead. They will become highly skilled, possibly work 30 hours a week and earn more. Or they might learn to be a drone pilot, which takes almost as much skill as flying a helicopter.



Thanks to technology, future jobs may be more specialised, pay more and involve less hours worked

"Even now, there are so many options that young people completing an appropriate degree can decide which direction to point their career based on their skills and interests and the sustainability of that career path.

Deb says agriculture and horticulture has again proved its sustainability and significance to national and local economies with most sectors continuing to perform well despite the impacts of Covid-19.

"The future is bright as New Zealand has the fabulous advantage of producing the kind of food consumers want to eat. We have to produce high value food because we are at the other end of the world. We are doing that by meeting new compliance standards and using technology, including precision farming techniques for the application of inputs and irrigation."



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New Zealand has the fabulous advantage of producing the kind of food consumers want to eat

Deb's own career path is evidence of the diverse opportunities the primary sector offers those willing to take them up. She grew up on a Southland sheep and beef farm, attended boarding school, followed by university in Dunedin before buying a sheep and beef farm with her "townie" husband Brent.

It was then that Deb began from scratch, founding what was to become New Zealand's largest peony rose exporting company at the time, MagnaFlora.

"I employed up to 30 staff at times and had two 60m² tunnel houses growing French tulips as well. We also grew Dutch iris. That was my business, and Brent ran the farm."

Eventually the couple leased out the farm and moved to Christchurch where Deb discovered, almost by accident, her talent for recruiting.

"I attended a job interview with a recruitment agency for a different role and was asked to join their team. I ended up recruiting engineers. Then I fell into agribusiness recruiting almost by accident, because I had an agricultural background and had learned about agribusiness from starting my own flower growing and exporting business."

Deb later went on to found AgRecruit in 2007 with business partner Alwyn Coll. Today its focus is still across the primary sector, recruiting graduates and staff at senior levels.

"We do it quite differently. We have just a few clients who we work very closely with to understand their business, so we know who will be a good fit for their teams. We talk to people at very senior levels, often including their boards and develop a high level of mutual trust."

"When it comes to recruiting staff, we spend between two to six hours with a potential recruit to be sure they are the best match. I am risk adverse because the biggest disaster can be placing the wrong person in a role. That can wreck their career, cost the company a fortune, and damage its reputation; so, I'm passionate about getting it right for everyone every single time."

Deb doesn't believe there is widespread disparity in remuneration between men and women working in primary industries.

"Agribusiness has been male dominated but that is changing with women increasingly appointed to senior roles. Women who approach their career path correctly will be paid as much as men. I see that regularly."

“

Agribusiness has been male dominated but that is changing with women increasingly appointed to senior roles



To keep up to date with Women in Horticulture news and activities, join the membership database by emailing info@women-in-hort.nz everyone is welcome. ●

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Restrictions on Farmers' Markets "unreasonable and uneconomic"

Classifying Farmers' Markets as events under 'Delta Level 2' restrictions and capping shoppers at 100 is unreasonable for customers and uneconomic for stallholders, says Jono Walker, chair of Farmers' Markets New Zealand (FMNZ).

By Elaine Fisher

As Farmers' Markets around the country, except for the five in Auckland, re-opened in early September, Jono says FMNZ struggled to understand why the classification had changed from last lockdown and had written to the Minister of Health to address the issue.

"We feel strongly that Farmers' Markets are not events. Events are concerts or sports matches where people buy tickets and attend for entertainment," Jono says. "Farmers' markets are about selling seasonal, staple, nutritious food such as fruit and vegetables, bread, meat and milk that people take home to cook during the week, returning the next week to buy more."

"During last lockdown Farmers' Markets were classified as a public venue space, more aligned with food




retailers like grocers, dairies and supermarkets. We can't understand why this has changed.

"Most markets are in the open air and my understanding is that there are no documented cases of people contracting Covid-19 in an outside environment."

There are 27 markets aligned to FMNZ throughout the country, supported by hundreds of growers and producers who rely on the markets for much or all of their income. It's on their behalf that Jono and other FMNZ committee members have advocated for a change in restrictions, particularly to the 100-person limit.

"I've done the sums, and if a shopper takes 15 minutes to get round a market quickly, that's four people per hour, times



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Jono Walker: Jono Walker, chair of Farmers' Markets New Zealand - Farmers' Markets are about selling staple, nutritious food

the 100 allowed under current rules, which means 400 people pass through the market each hour, equating to 1,600 over a normal market morning.

"That means stallholders are going to sell much less product, and for some it may not be worth being there; especially as some of the bigger markets attract as many as 5,000 people over the four hours the markets are open. There also won't be time to allow all the customers to do their shopping at some of the larger markets."

Markets which opened on 11 and 12 September employed security guards or volunteers to restrict public entry, adding another cost for stallholders and causing problems for markets with many points of entry.

Jono says in Australia and the United States, authentic Farmers' Markets have been classified as essential services. He doesn't know why the same is not true in New Zealand.

Stallholders accept the need under Delta Level 2, for everyone, including the public, to wear masks and for shoppers not to linger and chat as they would normally do, but are struggling to accept the limits on shopper numbers.

“

Last time we lost three-quarters of our income

Income for most stallholders has been significantly impacted by the Level 4 and Level 3 restrictions when markets were closed, and those growing fresh seasonal produce have been particularly hard hit.

"Farmers' Market stallholders have so far been resilient, with many being able to adapt to change and when curve balls are thrown at us. I hope most will come back but some will suffer and some businesses may fail, but so far I haven't heard of any that have failed.

"Those like us, who switched back to online orders and box deliveries as we did in the last lockdown, have coped but not everyone can do that," says Jono, who owns the Soggy Bottom Holdings and butchery with his wife Sarah Walker - a small enterprise raising free-range heritage breed pigs, cows and sheep.



Whangarei Growers' Market

Robert Bradley, co-founder of Australasia's oldest Farmers' Market, the Whangarei Growers' Market, says there is deep resentment among stallholders that the market was shut down under Levels 4 and 3 and then required to operate under strict Delta Level 2 restrictions.

"We are an outdoor market. Unlike many Farmers' Markets we don't sell hot food and drinks, so there is no need for shoppers to take masks off and no reason to hang around. Most take 20 to 25 minutes to shop," says Robert, who with Murray Burns founded the market in 1998.

Farmers' Markets and the Whangarei Growers' Market in particular, are much safer places to shop than indoor supermarkets and shopping malls, Robert believes.

"The public begins arriving around 6.30am and at this time of year it's often cold, wet and so windy you would have to really try hard to contract Covid-19. My understanding is that in Sydney, where Covid has gone mad, there is not one verified case of outdoor transmission. So, I can't understand why the government is putting restrictions on us."



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Otago Farmers Market: Under Level 2 restrictions, queues formed outside the entrance to the Otago Farmers' Market on Saturday 11 September

Those restrictions, he says, are not only hurting producers financially, they are also shaking their confidence in their future as growers and reducing the public's opportunity to choose where to shop.

"We produce fresh, seasonal produce which is often cheaper than supermarkets and tastes so much better. We see more young women bringing their children to the market, encouraging them to choose vegetables like broccoli to buy. By making that choice they buy into eating the vegetables. Many mums say their children won't eat supermarket vegetables because they don't taste as good."

Robert believes government lockdown restrictions have given unfair monopoly to supermarkets, which have in turn increased prices because they have no competition.

"Supermarkets try to nail growers to the floor in terms of price. Murray and I used to supply supermarkets but one of the reasons we started the Whangarei Growers' Market was because supermarkets were so hard to deal with."

At its peak, the market stallholders can sell 30 to 40 pallets of fresh produce to the 3,000 to 5,000 shoppers who turn up between 6.30am and 10.30am.

Robert says he and the other more experienced, older growers have got through the lockdowns because they have a certain amount of financial resilience.

"However, you can't keep on living off reserves if lockdowns are to continue, and it's been very tough on smaller, newer growers," Robert says.

Lockdown from February to April 2020 hit peak production time for Robert's market garden venture which grows a range of summer and winter greens in open ground.

"It cost me an arm and a leg. I had to hoe in \$5,000 to \$6,000 worth of spring onions alone because we couldn't trade."

Despite the reality that lockdowns will happen again, Robert isn't about to give up growing.

"To do what we do, you have to enjoy growing food. What keeps me going is knowing that our customers will be at the market, whatever the weather, to support us. Even in the pouring rain, we have enough customers to make it worthwhile."

Otago Farmers' Market

Among the growers forced to dump produce are Rodger and Cindy Whitson who grow hydroponic lettuce, herbs and flowers on a 4.4 ha property just outside of Mosgiel. Rodger gained national attention during Level 3 after posting on social media that he had to dump lettuce because the Otago Farmers' Market was closed.

"I got some flack via social media for not giving it away, when in fact I had given a lot to local food banks, but lettuce is a fresh product and they can only handle so much at a time," says Rodger. "At the end of every Farmers' Market, we always give any unsold product to KiwiHarvest which distributes it to where it's most needed, so we do our bit."

"We can only keep the lettuce growing for so long in the shade houses as we have to begin planting for the next rotation."

Rodger says the impacts of the past and current lockdowns and the prospect of more to come in future has shaken his confidence a little.

"I'm still planting as normal but in the long term, who knows."

"We need direction from the government of where we are heading. Currently there is so much uncertainty. We are waiting for the weekly announcements and all of a sudden, things change and we have little time to sort ourselves out. Clearer signals about long term plans would be helpful for all businesses."

“

We need direction from the government of where we are heading

Although he's pleased the Otago Farmers' Market can operate under Level 2, limiting customer numbers will have a dramatic impact on Rodger's income.

"At our busiest time we can have 400 customers to our stall alone."

The Whitsons do not supply supermarkets and Rodger says under the current restrictions, those who don't have fewer options to earn a living.

"There's some discussion among stallholders that we could put together food boxes with a variety of produce," he says. "It's hard for us to do that on our own as not many people will want to buy a \$50 box of lettuce."

Hamilton & Cambridge Farmers' Markets

Shannon Wright of Backyard Jem grows winter and summer vegetables in a large garden on a lifestyle block near Ngaruawahia which she sells at both the Hamilton and Cambridge Farmers' Markets. She also has an online store with a contactless pickup service from her property, and supplies salad greens to supermarkets.

"Even so, lockdown has hurt us financially. Last time we lost three-quarters of our income. At this time of year, coming into spring, produce can stay in the ground a little longer but it's not ideal."

Restricting numbers of shoppers at the markets will reduce sales, but Shannon believes markets could operate safely with larger numbers of people.

"We are encouraging people to 'grab and go' and are not providing places to picnic or gather as we normally do. From what I understand, Farmers' Markets overseas are carrying on and I can't see why we can't do the same."

Online sales and home deliveries are not a viable option for many producers or even the public, Shannon says.

"Fresh product which needs to be chilled or kept frozen can't safely be sent by courier. The public can't afford to pay the extra delivery cost for every box of food they order anyway."

"I won't be increasing the footprint I currently grow on but will improve efficiency and yield, along with marketing to increase our local customer base, and to provide more security moving forward for our family and our customers." ●

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To have the opportunity to contribute to New Zealand's biosecurity seemed perfect work for me

New Kiwifruit Vine Health chief executive Leanne Stewart

Plan to focus on full range of biosecurity threats

How Kiwifruit Vine Health (KVH) manages biosecurity risk in the kiwifruit industry is set to change with the proposed introduction of a new Pathway Management Plan next year which will focus on the full range of biosecurity threats.

By Elaine Fisher

"The Pathway Plan is not about just pests and diseases but also managing risks including the movement of people, plant material, pollen and other orchard inputs, with the aim of managing risk across all aspects of the business," says KVH's newly appointed chief executive officer Leanne Stewart.

After extensive industry consultation, the Pathway Management Plan is now with the government and the intention is for it to be implemented next year.

Seeing the plan through its final formal stages and then to implementation are tasks for which Leanne is ideally suited. Biosecurity and plant protection in particular is her passion, ignited by growing up in rural Manawatu.

"Growing up in the country helped me relate to how hard everybody works on farms and orchards and the need to



protect their livelihoods. To have the opportunity to contribute to New Zealand's biosecurity seemed perfect work for me," says Leanne who took up the role in May when former chief executive Stu Hutchings left to become Biosecurity New Zealand's chief biosecurity officer.

Leanne attended Massey University and has a Bachelor of Science degree in plant biology and ecology and a postgraduate diploma in science and plant protection. She joined the Ministry of Agriculture and Fisheries (MAF) which subsequently became the Ministry for Primary Industries, and later was one of three successful applicants, out of 400, to be appointed to a role with the International Plant Protection Convention based in Rome from 2015 to 2017.

Before taking up the new role with KVH, Leanne was deputy chief executive at HortNZ and general manager Process Vegetables New Zealand.

"My current role within this industry builds on my previous experience and provides a new opportunity to manage biosecurity risk to the kiwifruit industry in New Zealand," Leanne says.

"My roles have provided me with a comprehensive understanding of the management and issues faced within plant health systems at the industry, national, regional and global levels."

Leanne is impressed with the kiwifruit industry's handling of the vine disease Psa-V, first identified on a Te Puke orchard in 2010. That resulted in the establishment of KVH in December 2010 to lead the industry response to the Psa incursion. Since November 2012, KVH has been the lead organisation responsible for managing all biosecurity readiness, response and operations on behalf of the kiwifruit industry.

"It is unfortunate that it took a crisis like Psa-V to highlight biosecurity to the kiwifruit industry but there's an old saying 'never waste a crisis' - and the industry certainly did not do that."

The industry was fortunate to have the gold cultivar G3 which proved more tolerant of Psa-V and help growers bounce back.

"Without G3 the outcome could have been very different, and the industry won't forget how hard it was," Leanne says.

"However, it has been 10 years since Psa happened and it's important to make sure no one becomes complacent and instead keeps biosecurity front of mind because there are many known and unknown pests and pathogens which still pose a threat."

Those threats are among the reasons for the proposed Pathway Management Plan, which is equivalent to the current National Pest Management Plan (NPMP) for Psa-V but is more fit-for-purpose and makes sure all the right settings are in place so that any new threat can be detected quickly enough to stop its spread, limit impacts, and aim for eradication, she says.

Instead of focusing on a single pest, like Psa, the proposed plan focuses on protection against the full range of biosecurity threats to the kiwifruit industry and provides for a consistent and pragmatic approach to managing pathway risks such as young plants, budwood, pollen, orchard equipment and other items moved by people.

As well as working on the plan and other tasks, Leanne spent time during the first few months in her new role meeting growers and representatives of the post-harvest sector, including at the Mystery Creek Fielddays. In August, she was scheduled to join Zespri and New Zealand Kiwifruit Growers Inc on a series of roadshows throughout the growing regions. Unfortunately, they were postponed due to the Covid-19 lockdown.

"I do want to get out to meet growers and post-harvest operators in all the regions not just the Bay of Plenty, because KVH's focus is on what happens everywhere kiwifruit is grown in New Zealand."

Leanne is pleased to be working with the KVH team at Mount Maunganui.

"We are a small team of 10 people who have a massive work programme and everyone is very committed to making a difference for the kiwifruit industry and to help protect it against biosecurity risks. I am very happy to be working with a team and board of people so passionate about biosecurity." ●

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Planning agrichemical purchases for the coming season

The supply of crop protection solutions for the 2021–22 season will be challenging.

By Mark Ross : Agcarm chief executive

Manufacturers and suppliers are factoring in a lead time of more than six months to acquire agrichemicals. This advance planning is crucial to support the availability of the products in the face of shipping delays, congestion and ongoing disruptions caused by the Covid-19 pandemic.



The agrichemical industry encourages farmers and growers to prepare orders for the upcoming season in advance and talk to their merchant reps who can support them with their purchasing. Providing a good lead time is sensible as it allows suppliers to effectively manage the continuity of supply – as manufacturing companies now need double the lead time to get products into the country.

To assist with supply, it is recommended that orders for agrichemicals and other inputs be placed three to six months ahead of when you would normally order them. Careful planning is recommended to avoid over-ordering and any storage issues or charges incurred as a result. Retailers are unlikely to get stock well in advance and are generally not able to hold stock for farmers and growers.

In addition, sites can only hold limited volumes of certain agrichemicals, depending on their hazard classes.

Growers can talk to their merchant rep who will have options available to solve any pest problems in case any preferred brand is temporarily in short supply. If this happens, it's useful to discuss the substitute product's fit with the crop programme to ensure a positive outcome. Reps have a broad knowledge of the suite of alternatives and can recommend products to tackle options for all pests and diseases. Growers should also ensure that the alternatives meet processor, exporter and importing country requirements.

Following these requirements will allow growers to manage pests and diseases for the 2021–22 season. It is uncertain when shipping delays and congestion at domestic and international ports will ease. However, you can rest assured that agrichemical manufacturers and suppliers will be working overtime to ensure that you can continue to grow high-quality, healthy and pest-free crops. ●



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Connings Food Market adapts and thrives despite challenging times

Last year's first lockdown was loaded with stress for Connings Food Market near Nelson. But when the government announced that the country would once again enter Alert Level 4 on August 17, Connings had its systems ready to go.

By Anne Hardie

This time, the rules were clearer about opening for business. It took just two hours for the Conning family's operation to switch into lockdown mode, with safety measures put in place for staff and customers, allowing the business to open at Alert Level 4.

Simon Conning is the second generation to be involved in the family's market garden business and is in charge of the shop. He says they were fully stocked for the 2020 lockdown, thinking they would be allowed to open, only to be forced to close as the government worked out who could open to the public at Level 4. They turned to home deliveries to deal with the high stock volume in the shop. While it got existing produce out of the shop to customers, it wasn't efficient or profitable.

Eventually Connings opened at Level 4 with government guidelines in place. That experience guided its plan of action for ensuing lockdowns.

The food market sits on the edge of Richmond and is part of a family business that involves two generations, growing vegetables from seed in its nursery to be planted out on about 130ha of land where it is harvested for both the shop and the wholesale market.

Simon says there was a lot more certainty about the rules this time around when the August 2021 lockdown was announced.



Simon Conning says clearer rules make it easier preparing for business in lockdown

The shop was stocked with the knowledge they could open for business, PayWave was installed for the duration of lockdown and signs and arrows were erected to remind customers of social distancing rules and how to negotiate their way through the shop. Ropes blocked off aisles to encourage customers to follow the arrows and to ensure they weaved their way in one direction through the produce aisles to the checkout.

"We tried to put multiple locations of produce so if people missed something, they didn't try and go back to get it," Simon says. "It was a lot easier because we had done it before. We turned the shop over at night (before lockdown) and were open the next morning."

“

We tried to put multiple locations of produce so if people missed something, they didn't try and go back to get it

Staff numbers dropped for lockdown, though there were still about 40 on the roster, with high school students continuing to help out stocking shelves in the morning and packing up at the end of the day. The bakery behind the shop continued making bread, but the café in the shop stayed closed until Level 3 when it could reopen for contactless purchases.

About half the usual number of customers were in the shop to buy their fruit and vegetables during lockdown, but interestingly, they spent more. Simon puts that down to customers shopping just once a week to limit their outings and buying enough to last a week. In all, he estimates business dropped between 30 and 35% which was mainly attributed to restaurants not buying and the closure of the shop's café through Level 4. The produce side of the business barely changed.

“

In all, he estimates business dropped between 30 and 35% which was mainly attributed to restaurants not buying and the closure of the shop's café through Level 4



Customers continued to wear their masks and kept their 2m distancing, but as the South Island experienced no community cases of Covid-19, Simon says customers appeared far more relaxed than the lockdown of 2020.

He acknowledges it will be a different story if the virus is detected in the community. That will likely mean less staff and shorter hours so there is time to stock shelves and pack up without customers in the mix, he says.

The retail outlet was opened just over two years ago and within the first six months of business had unexpectedly reached its capacity. Business has continued to thrive and Simon says they are now looking at expansion to cater for more storage of produce, dried goods and meat.

One of the reasons the family established a retail outlet was to reduce the massive waste of vegetables that gets dumped from a market garden because it can't be sold through the market. It has experienced tremendous success. At the end of each day, a couple of crates of

produce heads to Kai Rescue and usually just one small crate is considered wastage. Prior to opening the shop, about 80% of the produce was harvested and the rest ploughed back into the soil. Whereas now the cut rate is more than 90%.

“We started it because we were dumping so much, whereas now we're harvesting firsts and seconds and the seconds come here to the shop or go to restaurants.”

Broccoli seconds can be sold in the shop at 59c each and sell well, whereas sending them to market would end up costing the business much more. Small celery can be bunched and sold through the shop instead of ending up as waste. Simon says much of the produce in the shop is outside supermarket specifications for reasons such as superficial blemishes, but is still good quality, fresh produce. So the bulk of the farm's produce continues to be sold via the market. He says the shop cannot be efficient without the market as Connings needs to be able to harvest in bulk to achieve lower costs. For that reason, they are careful not to undercut market prices with produce that can be found at both.

“If we're selling a grade not found elsewhere, we can be very competitive.”

Besides those vegetables that don't fit market specification, their retail outlet provides the opportunity to produce small crops such as kohlrabi, fancy lettuce and coriander. Or sell Brussels sprout stems which have been a big hit with customers who often photograph themselves with them for their social media posts. So much so, the farm will grow a few more rows next year.

“Having the nursery and being able to take crops from seed to retail gives us a lot more control. We can literally put the seed in the nursery and give it a go,” says Simon.

“The beauty of much of the produce grown on the farm, is that it can be harvested and put on the shop shelves the same day. It doesn't get much fresher than that.” ●



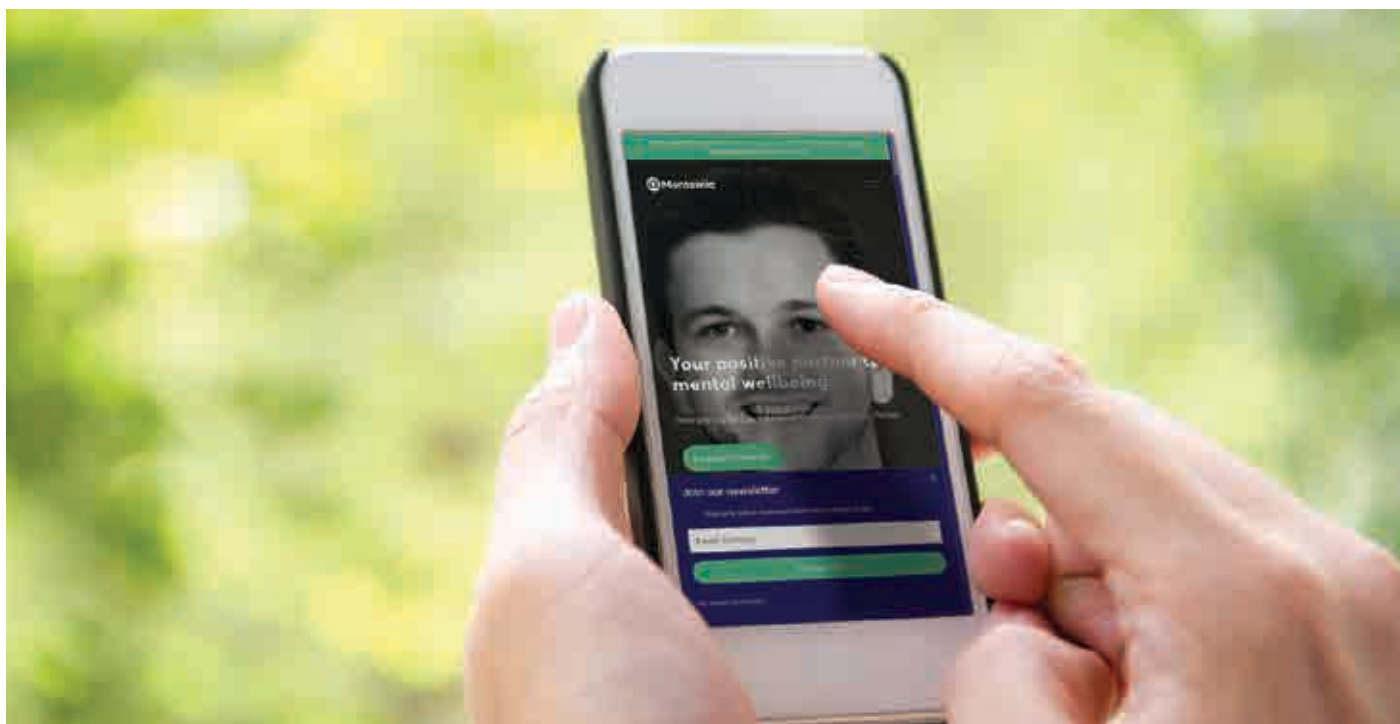
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Wellbeing workshops offer tools for growers in uncertain times

When the country went into another lockdown this August, Sir John Kirwan's anxiety levels shot up. He realised he could not do much about controlling lockdown, so instead, he focused on what he could control in his life.

By Anne Hardie

It is just one of the strategies he employs to manage anxiety - and anxiety in uncertain times such as under Covid-19 and lockdowns is quite normal.

The mental well-being advocate was set to lead a series of three well-being workshops in partnership with NZ Apples & Pears, Mentemia and the Ministry for Primary Industries. With the Nelson workshop unable to go ahead, the decision was made to hold a webinar - and with great success.

John, who has been through his own mental health journey, heard out the sentiments of lockdown anxiety and outlined his reaction and strategies for coping.

"There's this feeling of having no control and how do you take control back? Sometimes you get into that spiral, so what can I control and what can I look forward to?" he said.

Setting goals like learning the guitar, getting fitter, connecting with family, listening to podcasts and only listening to the news once a day - all made a dramatic, positive difference he said. By setting goals, you deal with one day at a time and focus on the things you can control. This shifts your outlook away from worrying about how long lockdown might go on and those things that are beyond your control.

His strategies, which are just as relevant to growers as they are to anyone experiencing the impact of Covid-19 or otherwise, are all on the Mentemia phone app.

Mentemia is a well-being platform offering a variety of tools including the worry map, breath training, being kind, a mood tracker and a personality quiz – as well as videos, articles and audios. The worry map enables you to describe your worry, create a plan of action and let go of the worry. Breath training improves the body's stress response. Being kind is an interactive feature where you spin a wheel of kindness, select an action and commit to doing it. A mood tracker tracks your mood and helps the user to understand the reason they feel that way. A personality quiz helps individuals learn more about themselves and their dispositions.



Health psychology specialist Dr Fiona Crichton joined John Kirwan on the webinar and pointed out that anxiety is a normal, in-built response designed to keep us safe. At challenging times like we are experiencing with Covid-19, the information can be overwhelming and push people more toward negative anxiety. That's when anxiety needs to be addressed, Fiona said.

"What we know about anxiety is it's important to take one day at a time and be present in the moment," she says. "Listening to a podcast can be a circuit breaker just to give your brain a break."

“

What we know about anxiety is it's important to take one day at a time and be present in the moment

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KEEP TO YOUR NORMAL ROUTINE WHERE POSSIBLE

Maintaining your everyday routine helps things to feel more in control. Even if you are working from home, get ready for your day as though you were going out to work.

She says it is also good to have routine through the day because that reassures our brain. It helps us remember things when we are anxious and when our thought processes become foggy.

John Kirwan says routine and the tools on Mentemia have saved his life. He uses breathing techniques to breathe his way through those times of heightened anxiety, and the worry map to get a plan of action to stop the worry. He says it is also important to be kind to yourself and accept it is okay to feel the way you do. A turning point for him was when he stopped asking himself why it was happening to him and accepted that it "just is."

“

A turning point for him was when he stopped asking himself why it was happening to him and accepted that it "just is"

"That was really healthy for me. 'It just is' brought me back to the present so I could work on the solution."

Fiona Crichton and John Kirwan explained the six pillars that Mentemia uses as the path to well-being: Connect, do, chill, move, celebrate and enjoy.

Connect is about being with family and people who are uplifting in your life.

Do is engaging your brain for better brain health, such as learning something or listening to podcasts.

Chill is reducing stress and includes the things you do to calm your mind, relax your body and switch off the fight or flight response.

Move is keeping physically active in a way that feels good.

Celebrate is recognising and building on strengths, being kind to yourself and taking care of your values.

Enjoy is having things to look forward to; those things you do for pleasure and fun.

Taking small, daily actions around each of the pillars reduces stress levels and increases resilience and happiness. ●



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Joanna Noble, Gisborne District Council chief of strategy and science, says clean water sustains us. Without it we are all in trouble, let alone the intrinsic value of our waterways and dependent ecosystems

Water care a collective effort

By Kristine Walsh

There is tremendous potential for growth in Te Tairāwhiti and the use and protection of water is a big part of that, says a Gisborne District Council scientist.

Just six months after taking on the role of the council's chief of strategy and science, Joanna Noble fronted a meeting with some of the biggest users of water on the fertile Poverty Bay Flats.

There, she talked about a range of issues, from the council's work on water security and resilience to updated government directions on freshwater management, a review of the Waipaoa Catchment Plan (including the

reallocation of consents) and, the question on many lips, the future of a proposed reinjection project for the crucial Makauri Aquifer.

Also up for discussion was a planned groundwater model for the Flats – due for delivery in March 2022. The model pulls together information from existing bores to build a picture of what is under the ground, how it could be used, and what the impacts could be.

"It was a way of outlining what a more fully-formed water security and resilience plan could look at, in terms of both current supply and future demand," Jo says.

"Our aim is to figure out if any actions are needed in that supply and demand space and what those actions might look like, and considering what role – if any – council would play."

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The meeting was, she says, an opportunity for great debate and the beginning of ongoing conversations around the issue of freshwater.

"There really is tremendous potential here in Tairāwhiti and being part of realising that potential is very exciting," says Jo.

"The region has such rich cultural history, an amazing climate and natural resources, and of course wonderful produce. But like any industry, the production of that produce has to be managed in an appropriate way."

“

The region has such rich cultural history, an amazing climate and natural resources, and of course wonderful produce. But like any industry, the production of that produce has to be managed in an appropriate way

As well as figuring out ways to reduce their environmental footprint, growers should be mindful of the reverse impact, she adds.

"In Gisborne/Tairāwhiti, that means being prepared for the predicted changes in rainfall patterns and higher prevalence of drought. It's not just about growers' impact on the environment...it is also about the environment's impact on them."

The industry of growing is not new to Jo.

Originally from the United Kingdom, she studied science to Master's level before moving to New Zealand some 20 years ago.

These days she is bedded in at the coastal enclave of Mahia, but growing up back in Sussex she lived on her parents' market garden where her dad, "Strawberry George," grew mainly salad crops and soft fruit berries like strawberries.

As for water, they had an on-site reservoir, so Jo has long been aware of the importance of water and the need to look after it.

For Jo Noble, her work around water security and resilience presents some big challenges, but she loves engaging with communities to achieve shared aims for the greater good.

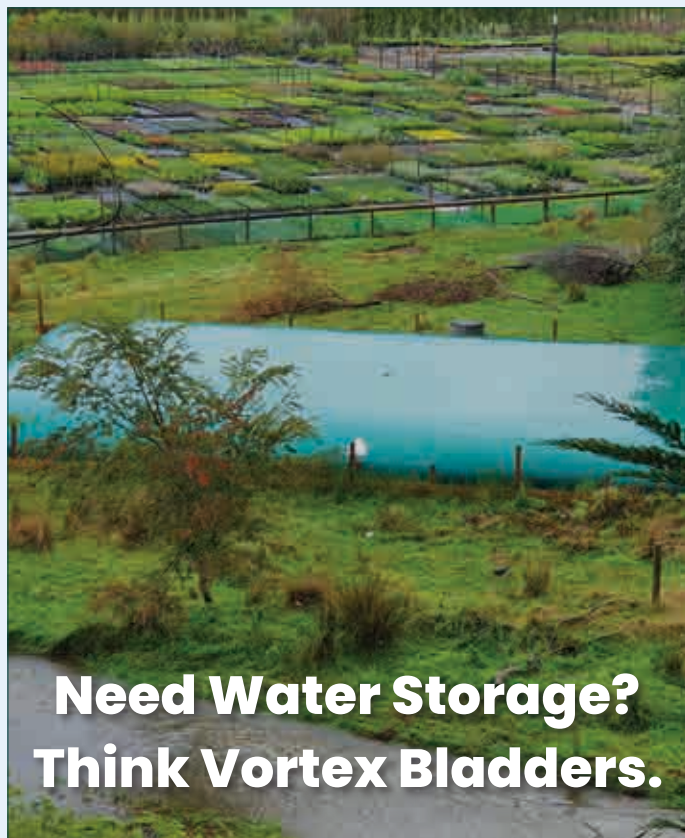
"Whatever we do, we can look to central government's policy of Te Mana o Te Wai, which ensures the health and well-being of the water is protected and human health needs are provided for before enabling other uses of water."

The timing of the recent meeting in Gisborne was significant in that council had just wrapped up the Managed Aquifer Recharge trial at Makauri and district councillors wanted staff to talk with those involved – as well as addressing the many other things happening in the freshwater space.

"It was important in that we all need to work together," she says. "That's the best way for us to work out how to achieve the desired and necessary outcomes."

“

Whatever we do, we can look to central government's policy of Te Mana o Te Wai, which ensures the health and well-being of the water is protected and human health needs are provided for before enabling other uses of water



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More work recommended on aquifer trial

With Gisborne's Managed Aquifer Recharge (MAR) trial now complete, the sub-committee run by the Gisborne District Council (GDC) has been disbanded and decisions need to be made around whether a recharge project will go ahead, and who will be responsible for it.

Jointly funded by the Provincial Growth Fund and Trust Tairāwhiti, the million-dollar trial was started in 2017 to determine if the aquifer – which supplies nearly a third of water for use on 3,000 hectares of land on the Poverty Bay Flats – can be replenished to counter the decline noted since the 1980s.

The second stage of the trial finished at the end of 2020 and growers have been keenly awaiting the results. While GDC has renewed consents to take water from the aquifer, it cut 75% of the allocation from existing users (which was largely not being used) and had no plans to grant consent to any new users. The Council also planned to impose a 10% cut in water use at each five-yearly review of consents until the aquifer was stabilised.

“

While GDC has renewed consents to take water from the aquifer, it cut 75% of the allocation from existing users (which was largely not being used) and had no plans to grant consent to any new users. The Council also planned to impose a 10% cut in water use at each five-yearly review of consents until the aquifer was stabilised

Joanna Noble says that now the trial is complete, there is no allowance in the region's long-term plan for a recharge project, so it is up to local government, central government, or private interests to step into that space.

If they do, they will have good science to draw on.

GDC commissioned an independent report which assessed whether the trial – in which water was harvested from the Waipaoa River and injected into the aquifer via a number of bores – should progress toward a full-scale recharge scheme and identified key risks for the project.



According to report author Paul Magarey, any future project would have the dual aim of alleviating declining groundwater levels, while addressing growing salinity within the aquifer.

There is a risk of clogging, which could reduce bore performance, but the author believes this could be mitigated by removing sediment through the aquifer's own natural filtration, or through means like the construction of wetlands or settling ponds.

He also recommended that mechanical means and sampling be used to keep a sharp eye on the presence of any indications of water degradation, ranging from turbidity, salinity and extreme pH levels, to the presence of pesticides, nutrients, bacteria, heavy metals and synthetic perfluoroalkyl or polyfluoroalkyl chemicals (PFAS).

Overall, Paul concluded that the Makauri Aquifer was sufficiently permeable and suited to a recharge scheme, which would work so long as potential clogging from source water could be managed.

In his opinion, the proposed winter injection of some 600,000 m³ into the aquifer would likely succeed in slowing the decline in groundwater while also improving salinity levels.

However, further work would still be required to evaluate the most appropriate bore field layout for a full-scale scheme, he said.

Paul believes that for any such scheme, its architects should consider the possibility of taking source water from an overlying aquifer, rather than from the Waipaoa River. ●

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Whitney Conder is orchard manager and sole grower on a cherry block near Clyde in Central Otago

Summer work sparks career choice

An orchard full of cherry blossoms, buzzing with the sound of pollinating bees is among Whitney Conder's happiest places.

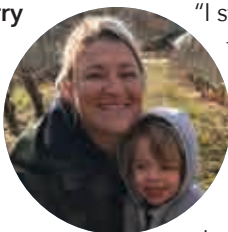
By Elaine Fisher

As the orchard manager and sole grower on a cherry block near Clyde in Central Otago, those sights and sounds hold the promise of next season's bountiful harvest.

"Fingers crossed we have a kind growing season this time," Whitney says. A successful season is very much hoped for given that the orchard was among the hardest hit in the region by storms that decimated a large proportion of export fruit in January 2021.

"We had produced some of the biggest fruit I had seen," says Whitney. "However, when it rains like that, the biggest fruit are the worst affected. What we did harvest was beautiful, but just not at the quantity we wanted."

With one weather event wiping out 12 months' work, it is Whitney's love of horticulture which keeps her committed and working in the industry.



"I started at the entry level into horticulture as a fruit picker during my summers as a uni student. The lifestyle really appealed to me, and sparked something," she says.

Whitney grew up in the deep south, where her family were farmers in the Central Southland region.

In 2014, she took time out from hands-on orchard work and took up the role of operator trainer for the innovative New Zealand fruit handling and packing technology company, Compac.

"I specialised in small fruit sorters, mostly cherry graders. This took me to many different places including the US, Canada and South America."

Training operators in South America tested Whitney's language and technical transfer skills.

"Often no English was spoken and we worked with an interpreter, or even Google translate. It was a great experience which taught me a lot about working with other cultures as well as seeing different growing practices."

Whitney's husband Hayden also worked for Compac. While the couple enjoyed the opportunities their roles offered, they were keen to return to New Zealand and settle down in Alexandra.

Today she and Hayden are parents to two and half-year-old George, younger brother to a wee boy they lost at just two weeks old. Her experience of motherhood has added another dimension to Whitney's view of her career.

"Getting back into your main work roles again after maternity leave is always emotional and in my opinion, getting back into horticulture work, as a grower, is another level altogether. Leaving your child with someone else is hard, even harder when your journey of becoming a parent hit every bump it could, in our case with two traumatic pregnancies.

“

Getting back into your main work roles again after maternity leave is always emotional

"I had to make sure I was being fair to my family and myself but also continuing to take part in something I love, which is working outdoors being a fruit grower, giving the orchard what it needs to succeed as well. My husband and I have amazing family support for which we will always be grateful. That support has played a huge role in allowing us to continue to do what we love."

Whitney now runs the cherry orchard on her own.

"I work what hours I need to get jobs done and timings right. I manage six hectares of cherries, on both centre leader and Upright Fruiting Offshoots tree training systems. I have around 1000 vines of pinot noir and pinot gris grapes and 130 feijoa trees which do surprisingly well down here in our Central Otago climate."

Whitney doesn't see her gender as a barrier.

"It's definitely a role that has its challenges physically, but I do alright and if I need help with anything I have neighbouring fruit growers who are more than happy to assist and offer advice.

"I love working through the seasons and being able to use what skills I've gained to make decisions on what to do next. Of course, there will always be challenges working in an outdoor role in a Central Otago climate, but I believe it makes me stronger as a person." ●

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Clyde Orchards general manager, Kris Robb

Images: Clare Toia-Bailey, Image Central

Clyde Orchards – Sharing life on a summerfruit orchard

For anyone wanting to know more about what life is like living and working on a summerfruit orchard, then Kris Robb is your man.

COVER
STORY

By Chelsea Donnelly

Jump on the Clyde Orchards' Facebook Page and you can scroll through the 60-odd short videos Kris and the team have produced on topics such as when to frost fight the apricot blossom block, the role bees have on an orchard, and how Cravo houses (greenhouses with retractable roof coverings) operate, along with some light entertainment in the form of winter fashion, local scenic bike rides and a great orchard version of the Hilux Ute advert.

Kris is the general manager of Clyde Orchards based in Earnscliffe, Clyde in Central Otago. When he left Logan Park High School in Dunedin in 1995 and came to Clyde for an eight-week job processing dried apricots at the then Sunbury Park Orchard, he didn't set out to become a general manager of an orchard. It wasn't long until he secured a full-time orchard position for the next couple of years, during which time he developed a passion for fruit

production and orchard management. Kris later enrolled at Otago University to study management for three years, then returned to a full-time position at Sunbury Park managing the orchard. He became actively involved with the local Fruitgrowers' Association, Young Growers group, and Young Grower competitions while completing his Diploma in Horticulture at the Otago Polytechnic Central Otago Campus.

“

He became actively involved with the local Fruitgrowers' Association, Young Growers group, and Young Grower competitions



Clyde Orchards staff operated as essential workers during the recent lockdown, wearing PPE and implementing social distancing protocols

Partnership opportunities, packhouse management and a stint working for ENZA in the Quality and Ops teams in Ettrick, cumulated in the offer of a full-time position at Clyde Orchards where he remains today.

Kris has embraced the 'storytelling' of life on the orchard. Through documenting the daily activities and decision making required in an orchard operation, he is helping to lift the profile of horticulture in Central Otago along with

educating and entertaining the local (and not so local) community on the complexities of fruit production.

The videos produced by Kris and the team have been valuable for newcomers, experienced staff, and for those who are just interested in understanding a little more about this vast industry. Tracey Harrison, a seasonal labour coordinator for the Ministry of Social Development (MSD), has been watching these videos to understand more about the complexities of working in the sector.

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Tracey manages MSD's New Zealand Seasonal Work Scheme (NZSWS) for the southern region and also provides support for other MSD employment products such as the apprenticeship boost, that is available to employers that have staff undertaking apprenticeships through the Primary Industries Training Organisation (Primary ITO). Kris currently has seven staff members studying horticulture through the Primary ITO apprenticeship training and apprenticeship boost scheme – two of which were MSD referrals. Through conversations with Tracey, Kris has been pleasantly surprised to find out that Clyde Orchards has been entitled to several financial packages, including ongoing travel costs through the New Zealand Seasonal Work Scheme for moving seasonal employees between orchard blocks in Alexandra and Bannockburn. Kris has promoted, in one of his pre-lockdown tutorial videos, the benefits of being on the NZSWS, including help with covering travel costs and incentive payments.

Anyone who is thinking of travelling down to Central Otago for the coming season is encouraged to contact Tracey to discuss eligibility.

Kris says he is in the horticulture industry for the long haul.

"I really enjoy the variety of work and people that are involved in the industry, from industry leaders to casual staff," he says. "I'm excited about new technologies that are being developed and the career opportunities that are arising in a growing industry."

"I was inspired to have a more conscious attempt at social media by Tangaroa Walker when he spoke at the

Summerfruit conference this year. At the conclusion of his presentation there was a bit of conversation about how our industry should embrace this form of media to reinforce positive stories. After a couple of beers, I decided that there were a lot of reasons why I could be the person that ran with it, so I have.

"I really want to use it [social media] as an informative and entertaining platform to promote our industry, our products and our region."

"If we pick up some casual staff out of it, that's great. If someone explores horticulture as a career – awesome. If someone buys another piece of fruit – sweet. Hopefully while having a laugh at the same time."



Kris's advice for other growers

- Encourage staff to join associations and young growers' groups and competitions.
- Continue to challenge yourself to embrace new technology.
- Learn who your local MSD person is and educate yourself about the products available to your business and employees.
- Encourage staff to take up training while fees-free funding is available. ●

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Photo: Trefor Ward

The 2021 Persimmon Export Season

It not possible to reflect on persimmon seasons in the current environment, without reference to Covid-19.

By Ian Turk : Persimmon Industry Council product group manager

The 2020 national lockdown happened right before the start of the persimmon industry's harvest – just as growers were starting to send fruit samples for pre-harvest residue testing. Air freight, which is for the majority of our early season sales, was hit hard by availability and therefore price, but also apparent low priority. Exporters were consistently having consignments at the start of the season bumped from flights. Far from optimal cool chain management for perishable products.

The Persimmon Industry Council (PIC) is focussed on the export sector – but seeing the issues in front of us for the coming season we quickly put a small domestic promotion in place. With independent outlets not open, quite an amount of fruit that was of smaller sizes or lower quality was not sent to market. It was felt that wholesalers and retailers were being quite wary, by not wanting to take on any risk in a difficult market – and not accepting anything other than the best quality produce.



...freight uncertainty has continued and again we have seen a higher than normal focus on sea freight where possible

What was the carry over effect into 2021? Market wise, freight uncertainty has continued and again we have seen a higher than normal focus on sea freight where possible.



With Covid-19 uncertainty overseas we have continued to see importers reluctant to take large volumes – i.e., sea freight container loads, which are significant for the not so mainstream product groups. Exporters have reported that they have had to resort to expensive airfreight options, sending smaller volumes more frequently to keep programmes in markets running through the season.

In recent years the domestic market has been strengthening. The result in 2020 saw the PIC increase its investment through 5+ a day, alongside marketers' own programmes. The 5+ a day programme and the local market continued to grow in 2021. Marketers obviously compare the risk and return profiles for domestic versus export and we continue to see significant quantities of fruit diverted to the local market as persimmons become better known.

Export volumes	
2021	1,400 tonnes
2020	1,232 tonnes
2019	1,630 tonnes (10 year record)

The export volume (at 1,400 tonnes) grew back past last year's level (1,232 tonnes), but still fell short of 2019, when exports reached a ten-year record (1,630 tonnes). The industry has new plantings still coming up to full production and we expect to be on a growth trend in volumes and prices over the next few years.

Our markets have been generally stable for some years, although we are seeing good growth coming from Vietnam, where exporters have good local programmes. Our largest market remains Australia which takes about one third of the volume. This is despite losing on-shore phytosanitary inspection completely last year, increasing the risk of exports to Australia.

We continue to aim for increased exports to our relatively new markets of China and the United States. Both have rigorous Official Assurance Programmes which require everyone in the chain supplying those markets to be committed to the programme. The industry view is however, that a wide range of developed markets is essential to spread market access risk.

At about the time our last shipment for 2021 was arriving in market, New Zealand had its first community case of Covid-19 for six months and the country once again headed into lockdown. For our industry, the timing this time around was as unobstructive as it could be – but perhaps a timely reminder that horticulture exports could continue to be impacted by Covid-19 around the world for some time to come. ●

“
With Covid-19 uncertainty overseas we have continued to see importers reluctant to take large volumes – i.e., sea freight container loads, which are significant for the not so mainstream product groups



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World-leading role in climate change

New Zealand has been urged to step up and lead the world when it comes to climate change.

By Glenys Christian

Lord Deben, a keynote speaker at the annual Horticulture conference, told growers this country could “show Australia how it’s done”.

“You could be the central nation to help the world with climate change,” he said. “If you don’t, problems will overwhelm us and that we cannot allow.”

Lord Deben is chairman of the United Kingdom Committee on Climate Change and a former Secretary of State for the Environment and Minister for Agriculture, Fisheries and Food. He visited New Zealand last year, congratulating the horticulture industry for rising to the range of challenges it is facing.

The message of ‘climate change is real and is going to continue’ permeated Deben’s address.

“It will get worse and if we don’t take steps now, the world will become increasingly difficult to live in,” he said.

Deben believes New Zealand is in a unique position to be able to help the rest of the world.

“It has all the stability without the baggage of western countries,” he said. “You can lead for countries in your corner of the world which soon won’t exist due to climate change.”

“

Make the most of the qualities you have such as the almost zero cost of energy

However, such a global problem will require a global effort to overcome it, he emphasised. Populations around the world will increasingly demand to know why more isn’t



being done in the climate change space. He said the New Zealand government needs to stick with its climate change policies, not be pushed off course, and to recognise that if it fails to act, it will be blamed.

New Zealand is responsible for some of the best products in the world but is not always making the right choices – importing bottled water, for example.

“Make the most of the qualities you have such as the almost zero cost of energy,” he said. “You’ve got to maximise your advantages.”

The horticulture industry will have to deal with too much water and heat in the future due to climate change, and even if New Zealand growers are proactive and take action now to minimise their impact, the world is still set to change.

“

Even if New Zealand growers are proactive and take action now to minimise their impact, the world is still set to change

Deben sees a simultaneous return to animal and arable farming to maintain biodiversity and to properly utilise resources such as soils. “It’s a very traditional system but it’s one we need to go back to.”

Dr Rod Carr, chair of the Climate Change Commission, said current policy settings will not get New Zealand to the targets set in its report released in May.

“But there are a range of pathways New Zealand could follow which are technically feasible, economically affordable and socially acceptable,” he said. “We need to get on with it now.”

New Zealand is an outlier because half its greenhouse gas emissions are biogenic gases, of which 90% comes from ruminant animals. The closest comparison which could be made is Ireland, where 35% of greenhouse gas emissions come from this source. There are not widely-known technologies to reduce these emissions, although land use change and better animal breeding could mean biogenic gases could be reduced by up to 10% over a decade.

“We’re unlikely to hit our targets without new technology, so the government must step up its support for research,” Rod said.

This doesn’t guarantee answers, “but we shouldn’t stint in our efforts to find them.”

Of the remaining 50% of greenhouse gas emissions, Rod said the main contributor is ground transport.

New Zealanders need to abandon buying old, dirty, secondhand cars and there needs to be higher emission standards for new cars. Motorists should be driving electric vehicles. Cycling and walking are to be encouraged. Freight should be moved off roads to rail and sea transport.

“Market prices need to play a part so barriers to choices are removed,” he said. “But it’s factually wrong and mischievous to say we want to outlaw non-electric vehicles.”

There are alternatives when it comes to process heat such as biomass too.

“We don’t recommend ripping out gas pipelines but there are affordable solutions.”

“If we start now, they will be able to be replaced in an orderly way. Around 40% of our energy comes from renewable sources, which we need to relentlessly drive to 60% over the years to come.”

“The challenge for New Zealand is that there is no single source of emissions where a reduction will be enough,” he said.

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"It's unhelpful to have a contest between rural and urban New Zealand." We all have to move forward together and have an understanding of supply change.

With only half of the country's greenhouse gas emissions currently covered by the emissions trading scheme (ETS), the programme is incomplete, he said.

"It's poorly regulated and subject to the limits any market has."

Markets are myopic. They discount the future too much and could never profess to deal with costs and benefits, because winners are unwilling to give up their wins in order to compensate losers.

New Zealand needs to do much more than reduce its emissions from 2005 levels by 30% by 2030 as agreed to.

"We are talking about the world holding New Zealand to account for the promises it's made," he said.

"We have signed and we will need to deliver under trade agreements."

Plans to reduce the emission profile will be drawn up in early November and by the end of the year, the government is expected to sign up to budgets running through to 2035.

"Have no doubt your world is changing now."

Asked where New Zealand ranks in global emissions per capita per annum, Rod said even if all agricultural emissions were taken out, levels are still twice those of China and India where emissions from all sources are included. This is mostly due to the high proportion of this country's emissions coming from transport sources. The world sees New Zealand as a wealthy country which has profited from over a century of use of non-renewable energy sources.

"We can choose not to use nuclear power or genetic modification but what we can't do is choose not to reduce our emissions."

Decarbonisation pathway project

At the Covered Crop Conference workshop on the decarbonisation pathway project, growers heard of progress so far. And they were urged to design any new facilities to be net carbon zero today rather than in 2050 when many of the government climate change mitigation measures will be in effect.

Jonathan Pooch, managing director of DETA Consulting, said a 98% reduction in energy usage is possible using technology available to covered crop growers at present. But it is a timing question when it comes to making commercial decisions.

"We don't want to be too early or too late," Jonathan said.

DETA will be producing a series of 'cheat sheets' to be distributed through TomatoesNZ and Vegetables New Zealand in the coming months, giving growers ideas on how they could best get started.

"The goal we're shooting for is net zero. It won't be easy, but we have to start planning for it now," he said.

"We are trying to think broadly ahead because we can't do it tomorrow, no one can. It's a step-by-step process."

DETA Consulting, based in offices around New Zealand and in Australia, develops carbon strategies and medium to long-term road maps from 10 to 30 years in duration to identify the lowest cost of operating in a future carbon market. Jonathan has looked at covered crop sites all over this country which use different ways of reducing energy demand.

"A 15% to 20% reduction is possible by doing simple things such as turning things off when they're not needed," he said. "We have to get the basics right."

“

A 15% to 20% reduction is possible by doing simple things such as turning things off when they're not needed

The decarbonisation project which tomato and vegetable growers are working on with the Energy Efficiency and Conservation Authority (EECA), aims to identify feasible options to reduce energy use and then switch to sustainable fuel sources. Case studies and resources along with information generated by the project will help growers make technically and economically viable decisions and investments. Work has so far been carried out in the field looking at different operations, technology changes and member engagement. Now it is at the stage of proving different technologies work by drawing on overseas research and trials.

"We are validating and getting that out and will work with individual growers," Glenn Wellington, EECA sector programme manager said.

The advice given to growers as to their alternatives is different for different sub-sector levels.

One possibility could be that growers in a particular area get together to use waste heat from an industrial process.

"The solution for a large Pukekohe grower will be different to those for a small South Island one," he said.

"We don't know what we don't know yet. We have to get the information first, then have a discussion." ●

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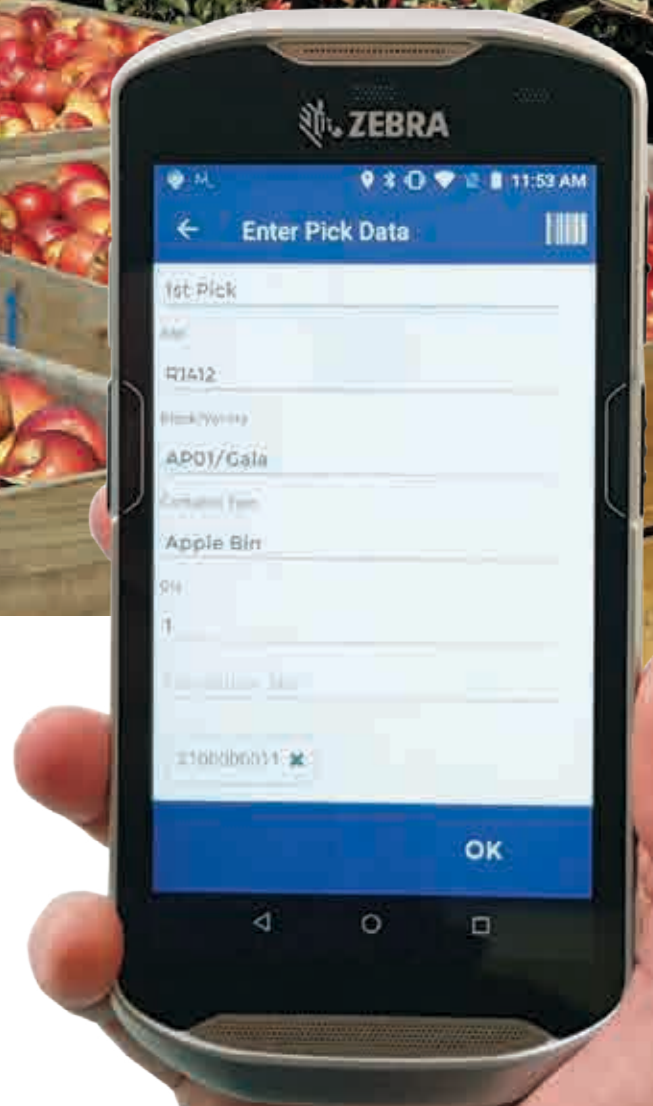


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Plant & Food senior scientist, Dave Rogers, discussed developing new Integrated Pest Management Strategies (IPM) for both conventional and organic production systems as part of the Residue Free by 2050 session

Residue Free by 2050?

Consumers and regulators, both domestically and in export markets, are increasingly demanding food that is free from chemicals, is grown sustainably and is ethically produced. They are often willing to pay a premium for this food too. This makes the production of high-quality produce more challenging.

Words by Geoff Lewis : photo by Trefor Ward

Many chemicals used to protect crops against horticultural pests, weeds and fungi, have been phased out in recent years in an effort to produce food that has minimal chemical residues or is free from residues. However, New Zealand's horticultural crop producers realised this was a problem in 2015, when many of the crop protection products they relied on had not been replaced with readily available product substitutes.

Many chemicals used to protect crops against horticultural pests, weeds and fungi, have been phased out in recent years in an effort to produce food that has minimal chemical residues or is free from residues.

However, New Zealand's horticultural crop producers realised this was a problem in 2015, when many of the crop protection products they relied on had not been replaced with readily available product substitutes.

An initiative called *A Lighter Touch* was developed – a seven-year, \$27 million programme led by representatives from the Ministry for Primary Industries (MPI), The Foundation for Arable Research (FAR), HortNZ and Zespri. The programme looks to find ways ahead in the identification and development of new crop protection methods, techniques and products.



On a global scale, the New Zealand market for crop protection products is small, and many fruit and vegetable crops grown in New Zealand are produced in small volumes. In many situations, the business case for registering products for use on these 'minor crops' didn't stack up.

“

A step-change in the industry's approach to crop production is needed for the horticulture sector to capitalise on this opportunity

There were also concerns a limited selection of crop protection products were increasing the risk that pests and diseases might develop resistance to available products. Many crop groups were proactive in funding research and working with crop protection companies, but there didn't appear to be a long-term solution to the lack of 'minor use' registrations.

A step-change in the industry's approach to crop production is needed for the horticulture sector to capitalise on this opportunity.

Integrated Pest Management (IPM) philosophy of pest control is founded on the principles of ecology. In practice, it involves using several control tactics based on a knowledge of the crop, pests and associated natural enemies to avoid crop loss and minimise harmful effects on the environment.

Plant & Food Research Ltd says that the world is changing and with that comes increasing pressure on the world's resources. Ensuring the resilience of our food production system will be vital.

Plant & Food Research aims to develop production systems that use fewer resources and produce more food that is safe to eat, and is presented to consumers in the best possible condition. Plant & Food Research scientists are utilising the principles of IPM in their research to keep pests and diseases under control via



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Dr Mette
Nielsen

natural methods – using the right amount of water and chemicals in horticultural production while ensuring minimal effects on the environment wherever possible.

Plant & Food Research senior scientist Dr Dave Rogers spoke at the 2021 Horticulture Conference in August on the topic ‘Residue Free by 2050 – a bridge too far?’

He said IPM is “challenging” and requires new tools and drivers which need to be sustainable economically, environmentally and ecologically.

“IPM is not about the use of broad-spectrum pesticides that can interrupt biological control and not about calendar spraying. IPM is not a complete science programme or a checklist of rules. It is pragmatic, real and practical.”

Dave said there needs to be a reason for the use of sprays and IPM features careful monitoring and the use of selected pesticides which do not disrupt ‘beneficials’ – biological control agents, which can help to achieve

the same outcome without the use, or with far more limited use, of chemicals.

“New food safety legislation in Europe means we are about to lose quite a few pesticides in the next few years,” said Dave. “Integrated Fruit Production requires a deep re-design. We are aiming for the maximum in biological control. It needs to be smart and sustainable. Looking at being spray free by 2050 we will be a long way towards being residue free, more so than anyone else in the world.”

“

Looking at being spray free by 2050 we will be a long way towards being residue free, more so than anyone else in the world

He also said the big thing now is that there is “much more alive in the orchard” due to the use of new and selected pesticides, biological controls and parasitoids.

“Not long ago we’d lose 30% of our (apple) crop to leaf roller, but now we’re off the toxic pesticide treadmill and thanks to biological control that’s down to only about 1% damage. Between 1995 and 2015 the total use of pesticides dropped hugely and this resulted in improved market access.”

Dave said disease-resistant varieties of apples were about to be released. “We’re turning a threat into an opportunity.”

Also speaking at the conference, Dr Mette Nielsen warned that seven common pesticides have been banned by the European Union and 39 more are under review by the Environmental Protection Authority (EPA).



"Consumers are concerned and the supermarkets are clamping down. IPM does a lot of things about reducing the use of chemicals due to environmental factors and human health factors. Some supermarkets don't want produce with any residue at all. The majority of consumers are willing to pay more for products that protect the environment and are perceived to be 'healthy'."

Multinational agrichemical developers and marketers are on the front-line in the battle between chemical crop protection products, insecticides, herbicides and fungicides and nature's fight-back in the form of natural resistance.

Paul Hassan is New Zealand technical services lead for one of these multinational agrichemical developers, Syngenta. He outlined the need for the industry to develop management principles for the control of natural resistance.

"Why do we need crop protection products? Because we are in competition on the macro level with creatures like birds. But our real concern is smaller insects and pathogens which are everywhere in the environment."

Traditionally bio-legacy companies would 'tweak' chemicals to target particular fungi, weeds and insect pests - but this was inefficient as the biota involved can quickly evolve to become resistant.

"We are in the business of developing and bringing modern agrichemicals to market. Crop protection compounds need a big investment to get to market. The average time is 11 years to get a product to market and the cost can be up to \$US 300 million. Costs have doubled in the past 25 years."

“

The average time is 11 years to get a product to market and the cost can be up to \$US 300 million. Costs have doubled in the past 25 years

"There has been a declining number of agrichemicals coming to market since the 1990s, fewer discoveries and more regulatory pressure," Paul said. "Some new products, multicides and fungicides, can create resistance."

"The programme *A Lighter Touch* will be the innovator in New Zealand. The rise in 'biologicals' or biological controls, as opposed to conventional controls, has created big interest from the multinationals and takes the residue pressure off traditional chemistry. They can also be used to enhance 'at-risk' chemistry."

Paul said while many low-risk products are also under regulatory pressure, genetic mutation is amplifying resistance and further emphasises the importance of resistance management.

"Once we get resistance it can lead to the loss of control in the field and then it's lost forever. It is critical to employ good resistance management strategies. In Australia for example, wheat growers have lost a lot of options and are facing rising costs in finding new protections."

"In New Zealand, we are using the programme *A Lighter Touch* as a vehicle and working to develop beneficial fungi which can colonise plants."

The bio-control market is growing at three to four times the rate of the traditional control market.

The plant-based food sector, incorporating horticulture, arable cropping and viticulture, generates more than \$8 billion annually. New Zealand's annual horticultural production is valued at \$6.73 billion including \$3.4 billion in exports, produced by 6,000 commercial fruit and vegetable growers. ●

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Noel Rasmussen, an employee at Waimarama Orchards, is now training others in his work thanks to the opportunity he was given to study and upskill

Mei Petera has taken on a new role with whenua at Ngātaki since completing her study through the Primary ITO

Qualifications bring opportunities for whānau and whenua

In the far North, Ngāti Kuri iwi operate a 60-hectare avocado orchard, growing over 20,000 avocado trees and a recently developed block of five canopy hectares of blueberries.

Supplied by Primary ITO

Since 2014, Ngāti Kuri have been encouraging orchard kaimahi (workers) to take up study alongside their work. Now, almost all of the orchard's 20 part-time and full-time workers are participating in some form of study through the Primary Industry Training Organisation (ITO).

Mei Petera and Noel Rasmussen, employees at Waimarama Orchards, have been studying the New Zealand Apprenticeship in Fruit Production part-time. Mei recently completed her Level 4 qualification and Noel is studying Level 3.

Mei, a busy mum with four tamariki (children), has been promoted to manage the blueberry operation and now



supervises a team. She is also in the process of becoming a workplace assessor and mentor.

Mei says the opportunity to study has changed her life.

"It has shown [me] that you can upskill and get more experience and progress to be a supervisor or manager," she says.

"You can develop to lead others and show them that there are greater opportunities for them. It gives you satisfaction in your job and a feeling of wanting to come to work."

Mei has since been asked by Ngāti Kuri to take on a role with their whenua at Ngātaki, in the same district as the orchard.

Noel, originally from a forestry background, has taken a lead role in the avocado orchard through his study. He is also involved in a seed collection and propagation initiative for a native tree nursery being developed for whenua planting, and in the irrigation work for the blueberry block.

Noel says the opportunity has made him feel good about being Māori and about his work.

"It is definitely a proud feeling working under a Māori organisation that is giving people the opportunity to upskill and a better future direction," he says.

“

It is definitely a proud feeling working under a Māori organisation that is giving people the opportunity to upskill and a better future direction

"Now I have the opportunity to transfer my learnings, to establish something for my whanāu," says Noel.

Although schoolwork was never his thing, Noel says homework for his apprenticeship was surprisingly positive.

"I get to sit down with my oldest daughter and we do our study together. We talk over our work and she lifts the bar for me."

Initially nervous about studying while working, Mei and Noel are enjoying using the skills they have developed and encouraging others towards further qualifications.

"I'm training others in my work and basically upskilling them. I love that," says Noel.

Orchard Kaiwhakahaera Matua Supervisor, Paul Tolladay says he's proud to work with an iwi encouraging workers to gain qualifications for the work they do.

"To see people who have come into our industry with no expectations of bettering themselves achieving qualifications like this is the ultimate. That beats any crop that you can grow." ●



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AVO UPDATE



Doing it tough

By Jen Scoular : NZ Avocado chief executive



Having been in the horticulture industry more than 20 years, it is always a great catch up at the Horticulture Conference.

Held in August, the conference is a fantastic opportunity to hear others' stories, to congratulate or commiserate with colleagues and sectors doing well or not so well and to gain some awareness of how our sector and our growers are doing versus other sectors.

Without a doubt, weariness and fatigue were well used descriptors during the event. Eighteen months into a global health pandemic, we are all feeling the effect of things being a bit more, or even a lot more, challenging.

This will be one of the toughest avocado seasons for a decade. On the positive side we are expecting a similar crop volume to last season and the size profile is looking good. We will see similar volumes for the fifth year in a row – a very welcome change from the volatile supply we have experienced in the ten years prior to that. It's the demand side that is causing concern and the route to market, with Covid-19 disrupting global freight.

“

The New Zealand market started with a hiss and a roar of harvest, but large weekly volumes crashed returns and marketers are having to work very hard to restore some of that value

The Australian market has been a jewel in the crown for our industry, one of the highest paying avocado markets in the world. Until last year avocados from New Zealand were the only imports and our exporters have built up excellent relationships over 20 years in that market.

An oversupply of domestic avocados, sluggish winter demand and a supply chain disrupted by Covid-19, has all hit Australia at the same time – as well as new lockdowns. Australian domestic production in the New Zealand window is forecast to be three times bigger than the 2020 season. As a result, our avocados will need to travel further, to Asian markets, with greater uncertainty on freight.

New Zealand exporters are great at building relationships, a driver of business. But without being able to travel, that

relationship-building to maintain customers and make new ones, is very tough. New market channels would normally involve technical visits to ensure the integrity of product through to customer and consumer, which has not been an option.

Last month we initiated a 'morning tea' Zoom call for our growers. The 20-minute Zoom included a quick industry update and then we asked John Tyas, chief executive of Australian Avocados, to join us to give his view of what is happening in that market and what might be happening when New Zealand avocados arrive in September. He wasn't able to paint a very rosy picture, but it was great to get his expert view of the market.

The New Zealand market started with a hiss and a roar of harvest, but large weekly volumes crashed returns and marketers are having to work very hard to restore some of that value. On the positive side, we are looking to attract some of the 30% of Kiwis who don't yet eat avocados. Avocados are offering amazing value at the moment, there is no better time for new consumers to be brought into the fold. The New Zealand market group is strongly supporting the promotional activity being initiated in this market.

Marketers are preparing growers with forecasts of low returns, frighteningly low to those who may have only recently joined the industry. Those who have been around a bit longer acknowledge the risk involved in horticulture, the weather, the avocado trees' propensity for irregular crops, labour, market demand and the rest. As the industry body, we want to engage with growers and provide them and our stakeholders with support to help them through what will be difficult times ahead.

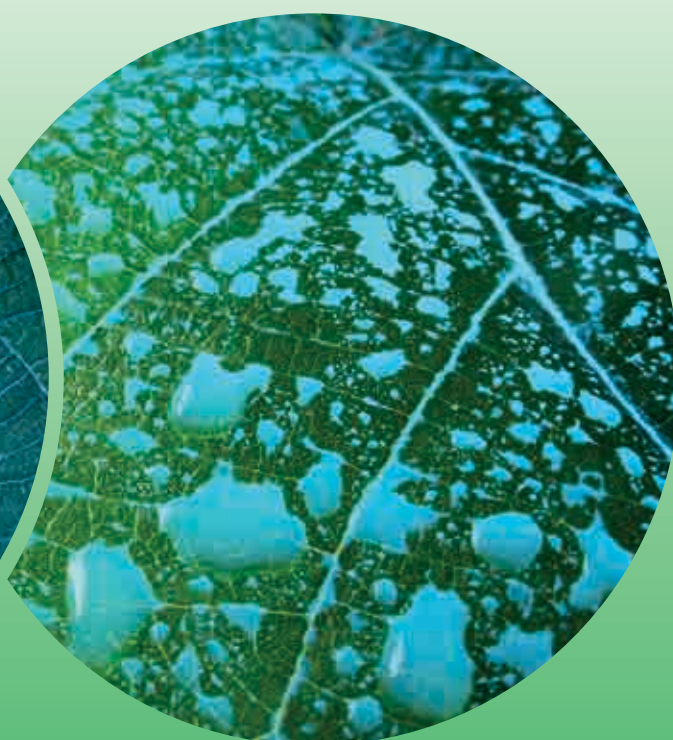
The Horticulture Conference reiterated that willingness to support our industry and we heard from a keynote speaker about the need to talk about it, to seek help and to know the avenues available to provide that help. We have a section on our website on grower well-being with links to Farmstrong and the Rural Community Trusts in different regions.

I really appreciated the networking at last month's conference, the acknowledgement that times are tough, that it's okay to be feeling challenged and it is okay to openly share that feeling. Thanks to my colleagues who attended and provided that much needed boost by sharing their stories, acknowledging that it's not all rosy and asking, "how are you?" – and meaning it. ●

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Chris working on their Karamea orchard

Creative balancing of subtropical crops on West Coast orchard



NZ Feijoa Growers
Association's
AGM & Field Day

The 2021 AGM & Field Day is being held in Nelson on Friday 12th and Saturday 13th November 2021.

The AGM is being held on the evening of the 12th, with the field day on Saturday. Our Conference dinner will be on Saturday night.

If you would like further information, please email info@feijoa.org.nz or visit the Association's website www.feijoa.org.nz. The programme and registration are available from our website.

We look forward to seeing you there!

www.feijoa.org.nz

By Anne Hardie

Karamea is the horticulture hub of the West Coast and its temperate climate enables Bakers Creek Orchard to harvest subtropical fruit later than their North Island counterparts to reap financial rewards.

Chris Shaw and Chris Partridge grow an assortment of fruit crops on their 5ha of land near the tiny township of Karamea, including tamarillo, passionfruit, feijoas, limes and berries. A few more hectares grazes 'beefies' as another source of income. The duo have been operating as a boutique orchard for more than two decades, over which time the business has evolved to counter the challenges thrown at them.

Initially, they arrived in Karamea to work as cave guides after meeting in Canada on their overseas travels. A range

of seasonal and part-time jobs followed until they were offered land to lease and the chance to be self-employed.

When passionfruit from their garden was greeted as a rare, expensive treat at the local market, they set up a very small passionfruit orchard. Then they bought the land and the growing business snowballed. The passionfruit section of the orchard climbed to 600 vines, which was manageable for two people and produced a harvest that didn't swamp the market.

Chris (Christine) says the one big advantage for growing passionfruit in their Karamea microclimate is they are naturally a winter cropper and that's when the North Island harvest is coming to an end. A typical harvest for them is from June or July through to September and sometimes even October.

It's all in the climate. Karamea may be in the South Island, but as Chris points out, it actually lies north of Wellington and east of Oxford in Canterbury. Rainfall is usually 2m and temperatures are mild, with just a few frosts from cold air trapped by the nearby mountains in the Kahurangi National Park.

Few passionfruit on the market by the time they harvest resulted in \$25/kg wholesale last year. Though they grow the fruit where many would consider the back of beyond, Chris says it is cheaper to get fruit from Karamea to Christchurch than it is for North Island growers to get produce across the Cook Strait.

Passionfruit is now a secondary crop after Cyclone Ita hammered the orchard in 2014. A combination of factors that Chris describes as a perfect storm, wrote much of the crop off in the following year. Damaged frost cloth was replaced with a cheaper cloth that didn't let enough light in

and then the West Coast went through both a spring and summer with little sun. A change in the available fungicide sprays also meant only copper was allowed to be used and the build-up of copper in the soil took its toll on soil health.

Years later, Chris says the soil is still recovering and they are using biological farming methods to improve the soil and keep roots healthy. Though not organic, they use rock phosphate fertilisers and fish-based liquid feed which contain soil-friendly microbes, biochar potassium, as well as microbial inoculants and recently liquid humic acid, to produce a good effect.

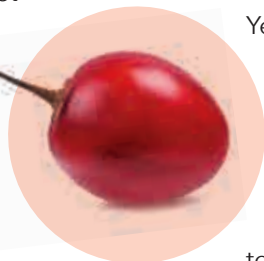
"It takes one year to knacker your soil and five to six years to get it back into good health again," Chris says.

“

It takes one year to knacker your soil and five to six years to get it back into good health again

A struggling passionfruit crop meant they needed a plan B and that was replacing 1.5ha with tamarillos. They already had a few before the cyclone hit that were performing well, so it was an easy decision to increase numbers in another subtropical crop that also fetched high prices.

But it hasn't been without challenges. Last year they discovered psyllids in the tamarillos just before harvest and that halved the crop. Chris says they'd had a "sweet run" without the pest and knew it was going to turn up one day. The tamarillo industry in the North Island had already learnt how to deal with psyllid and that gave them a script to follow to get on top of the pest.



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"The first law in horticulture is shit happens, the second law is having a plan B and the third law is next letter please," Chris says.

The tamarillo crop was smaller again this year because they stopped spraying for psyllid through harvest. Costs are down too, so financially it balances out.

"That's the advantage of being a boutique orchard. We don't have the labour - it just means the other things we've been meaning to do haven't been done."

She says they organise their operational workload so it can be done by just two people most of the time. When harvests are small, they have the time to catch up on those jobs that get pushed to one side during the busy bumper crops.

Tamarillo harvest at Bakers Creek Orchard usually kicks off in June, but this year it was September. Chris attributes that to a wet, dark winter and having to remove frost covers to let more light in so the crop could ripen.

Wholesale prices started out at \$12/kg for their large fruit which was sold around the Top of the South - despite it being more difficult to transport produce around this local area than it is to freight it a longer distance on the main routes to Christchurch. Later, prices dropped to \$7 to \$8/kg.

In the past they have harvested ten to 12 tonnes of tamarillos, 80% of which is top-grade fruit that achieves good prices. Though the crop is down this year, it will increase again next year as young trees come into production.

"We've got our own endemic tamarillo variety in Karamaea that we grow from seed - we think it has a dash of gold tamarillo in it - and it's noticeably sweeter."

Along with tamarillo and passionfruit, the orchard grows about 800 feijoa trees, including four different late-season cultivars to harvest from the tail end of the North Island crop. Unique is a good universal pollinator, combined with Wiki Tu, Opal Star and a few Kakapo. They had Triumph before Cyclone Ita, but 70% of the those trees snapped in the storm and were replaced by Opal Star.

"They say feijoas are not too much work - ha! You have to prune them and you have to pick them in six weeks," says Chris. "That's the only time we need to bring someone in, because you have to pick them in a short period of time. We can get a little wild-eyed when we're picking feijoas."

She says the beauty of passionfruit and tamarillos is that all the fruit has a market, whereas feijoas always end up with a processing grade. Fortunately, they have someone to take that fruit now rather than feeding them to the cattle.



Despite the workload of feijoas, the last of their feijoas this year sold for \$12/kg and filled a slot in the financial calendar for cashflow. The calendar still has gaps though, which is why the orchard has 33 lime trees that produce about a tonne a year. They can be harvested throughout the year which fits well into their workload, and some of this year's crop is heading to the local distillery.

Blueberries slot into the busy tourist season in the town. From 120 plants using two cultivars that are harvested around Christmas, they produce about 250kg over a six-week period. A small row of raspberries adds another crop to the mix for summer.



It's all about getting crops that fit together so at no time do you have too many balls in the air that you are trying to juggle

"It's all about getting crops that fit together so at no time do you have too many balls in the air that you are trying to juggle," says Chris. "We did the blueberries because we sat down and thought they could fit in and around everything else and be a good money earner. We can leave them to be tree ripened because they are going straight to the final buyer and don't need a long shelf life, so they are sweeter."

Completing the orchard are a few dairy beef that the couple raise each year from four-day-old calves through to 250kg adults on the hook 18 months later. The group of cattle they sold in autumn fetched \$1,200 each - adding another string to their bow.

After two decades, they have decided it is time to hand the reins over and sell the orchard to a younger generation willing to embrace technology and take the business forward. They plan on keeping 2ha so they "won't be sitting there knitting."

"People are wanting to get stuff online, but it needs someone with a lot more nous than us. There's good opportunities there and you could get a lot more money than wholesale. It doesn't need to be big, but technology could streamline it." ●



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Certification process brings benefits for passionfruit grower

By Elaine Fisher



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Annual General Meeting

Online ZOOM Meeting
Thursday, 4 November 2021 at 7.30pm

All commercial growers of passionfruit are invited to attend the on-line meeting. Due to ongoing impacts from Covid-19 we will not be holding a meeting in person. Membership to the NZPGA is not required to attend, but is required to vote. Meeting details will be included in the AGM Pack.

For an AGM pack, please email:
Christine Herbert, secretary@passionfruit.org.nz

love the goodness taste the goodness

Gaining the New Zealand equivalent of the GLOBALG.A.P. Good Agricultural Practice certification – (NZGAP GLOBALG.A.P. Equivalent) – has not only assured Tauranga orchardist Teague Bishop of domestic and international market access for his passionfruit but helped to streamline his orchard and packhouse operations.

"The NZGAP process provided a good platform for improving the management of the orchard and packhouse, including tracking the production from each area of the orchard," Teague says.

"It also helped us review and optimise the use of agri-chemicals because there is a big emphasis on the environment. This environmental focus made us even more aware of the bigger picture and now, wherever possible, we use the most environmentally friendly option, which carries significant benefits for our orchard and the environment."

These outcomes weren't what Teague expected when he began the process of NZGAP GLOBALG.A.P. Equivalent certification. Like many growers, he saw it as a requirement to continue selling his fruit both locally and abroad.

“

Now that we have the certification, our customers accept our credibility without question

"It was recommended that we obtain NZGAP GLOBALG.A.P. Equivalent certification to safeguard our ability to sell locally and overseas," Teague says.

"Now that we have the certification, our customers accept our credibility without question. This gives us confidence that we will be able to continue selling our fruit.

"In order to sell passionfruit in New Zealand, growers are required to comply with the Food Act, 2014. Growers certified to NZGAP GLOBALG.A.P. Equivalent meet these requirements, but still need to be registered with the Ministry for Primary Industries (MPI). Compliance with the Food Act is easily accomplished as part of the NZGAP GLOBALG.A.P. Equivalent certification process."



“

The process provided a good platform for improving the management of the orchard and packhouse, including tracking the production from each area of the orchard

Teague grows passionfruit on a 0.5ha property near Tauranga in the Bay of Plenty. At 280m above sea level, the orchard pushes the margins for what is considered ideal passionfruit growing conditions, but even so, Teague still manages to produce export quality fruit for supply to the United States and local markets.

Teague has run the orchard and packhouse, with the help of his family, for 16 years. He began the process of attaining NZGAP GLOBALG.A.P. Equivalent certification in 2019, achieving certification in early 2020. "NZGAP GLOBALG.A.P. Equivalent certification entails significant effort and cost, but it is well worth it."

As part of the process, Teague prepared both electronic and physical dossiers which have become a valued part of his business operation.

"It is ideal to have all the documentation collated and easily accessible because we frequently refer to it and update it," he says.

"A considerable part of compliance is the maintenance of various registers. Once they are in place they complement the running of the business and make compliance audits quicker and easier because the information is readily available.

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Teague Bishop says the NZGAP process has helped to improve the management of his Tauranga passionfruit orchard and packhouse

"My advice to new growers is to strive for certification as early as possible, rather than having to change and introduce processes down the track. One is advantaged by having the main processes in place from commencement of the operation.

"I recommend obtaining the NZGAP manual because it helps one to gain an understanding of the basic requirements for NZGAP GLOBALG.A.P. Equivalent certification."

“

GLOBALG.A.P. certification entails significant effort and cost, but it is well worth it

Teague has no doubts about the value NZGAP GLOBALG.A.P. Equivalent certification adds to his business, the wider horticultural industry and New Zealand's international reputation.

"By attaining certification, growers are doing the right thing to improve production quality and safety and to protect the environment, their consumers, employees and themselves."

Damien Farrelly, NZGAP manager, acknowledges that the process of preparing for compliance can be complicated and costly for growers.

"We continually try to remove the complexity of compliance to make things a little easier for growers.

“

We are trying to take complexity out of compliance to make things a little easier for growers

NZGAP GLOBALG.A.P. Equivalent with the Food Act add-on is a great example of a programme which solves multiple problems for growers via one integrated system.," Damien says. "The current challenge is that regulatory and market requirements are changing faster than ever, meaning NZGAP and growers need to be more agile with continual development and improvement their systems. ●



For more information on NZGAP, visit:
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TECHNICAL

THE LATEST INNOVATIONS AND IMPROVEMENTS

2D systems
Figure 1

*Looking down a
row of mature
Royal Gala in a 2D
canopy system*



2D systems – Tree training and canopy development

2D tree canopies are formal upright systems usually comprised of eight horizontal fruiting wires. Tree branches are trained to grow along these wires, creating a formal ‘fruiting wall’.

By Sarah de Bruin : AgFirst

The canopy design runs down a single plane resulting in a narrow canopy, less than 40cm thick. As the depth of the 2D canopy is reduced, there is less internal canopy shade in comparison to the more common, tall spindle planting style.

A 2D canopy system lends itself to consistent, high coloured fruit due to the uniform interception of available light. Blush is present on fruit from the top to the bottom of the canopy, meaning fruit is able to be harvested in two picks rather than three.

In order to achieve consistency, the canopy must be managed as a segmented system. The trees are managed at an individual branch level, narrowing the focus to one section of the wire at a time. In a 2D canopy, yield is limited by the number of wires in the system. Therefore, as there are no extra branches, every wire needs to be filled to achieve the maximum yield potential. This shifts the focus from tree height to horizontal metres. Optimising the light environment and selecting the best fruiting wood to form these horizontal metres is key for success.


To achieve the ideal light environment and the well distributed blush this canopy promises, regular and well-timed tree training must take place. A ‘little and often’

approach to branch manipulation throughout the season is needed, rather than the few bigger tree training requirements of a tall spindle structure. This more regular approach in a formal system requires approximately 15% more labour to set up in the initial years compared to a tall spindle canopy. On-orchard decisions about labour availability and time allocation for regular tree training must occur throughout the growing season.

This additional cost of initial tree training is soon recovered. The narrow and consistent nature of the 2D system allows for labour efficiencies to be made during the thinning and harvest periods. This canopy is also better prepared for automation and robotics as the reduced canopy depth means it is accessible from both sides. Getting the canopy set up correctly from the start allows for these efficiencies to be realised.

“

To achieve the ideal light environment and the well distributed blush this canopy promises, regular and well-timed tree training must take place




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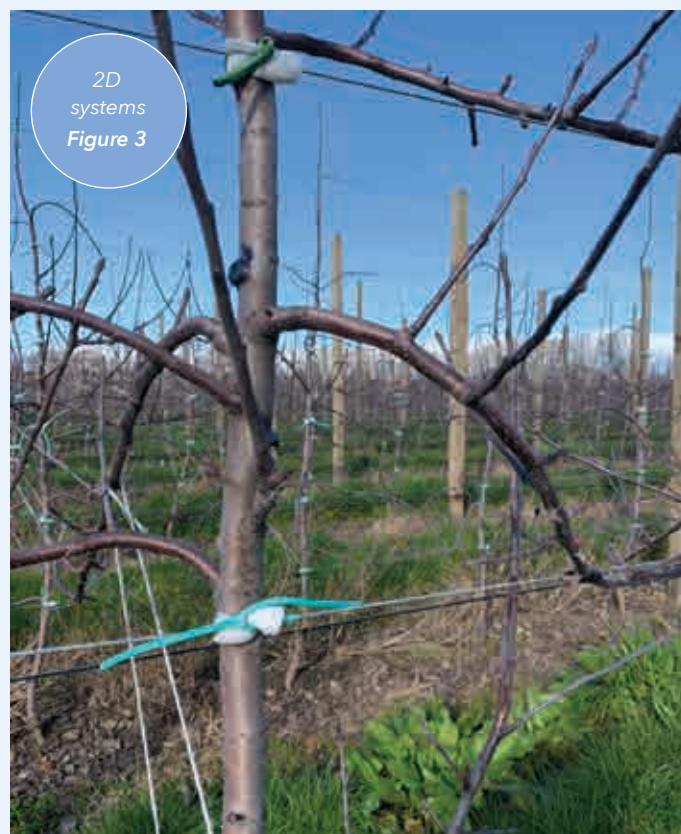
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Side view of an Envy 2D canopy



A Hooped Dazzle branch trained in from too high above the wire creating an angle that is too steep. Space is wasted on the wire and a vigour response can be seen

Tree Training Principles

In a 2D system trees must be regularly checked and appropriate and well-timed decisions taken to bend and train branches along the wires in accordance with the growth stage of the tree. In this way the timeliness of tree training ensures the canopy remains calm and the trees remain balanced. Regular tree training requirements are needed throughout the growing season to fill the structure's wires with the right branches and establish the trees within the system. Calm, narrow branches need to be brought down and secured along the wires, tying them in close without snapping them.

The decision of which branches to tie down when creating the canopy may seem intimidating, but it can be broken down into three simple rules:

1. Fill the wires.
2. Bring down a branch closest to the wire.
3. Choose branches less than 30% of the trunk diameter.

The first and most important rule in this growing system is to fill the wires, as leaving wires bare reduces the potential yield in a 2D system. Sometimes this means that less than ideal branches are trained in, as they are the only ones available to fill the wires. These branches can be replaced with a better option further down the track. Branches need to start on the leader, in the right location, to create a good angle when secured to the wire. Trained in branches should come from within a target zone of 80mm above the wire and 50mm below, with the very best branches being 50mm above the wire. Branches starting in this zone promote the best sap flow from the leader down through the branch to the ends. However, using whichever branch options are available is preferred over leaving the wires bare.

New branches can be created by scoring the leader. Cutting through the cambium layer immediately above the wire is a good way to encourage dormant buds to push a new branch and fill an empty wire. The cut interrupts the flow of nutrients through the phloem, directing it to that bud rather than further up the tree. Be sure to not ring bark the tree by scoring right around the leader. This will interrupt sap flow completely and result in poor growth and minimal tree development.

Using the same principle, notching along blind areas of trained-in branches can successfully create new buds to make sure you are utilising the space all the way along the branches.

Branches should be brought down at wide crotch angles – secured to the wire at an angle greater than 45 degrees. If the branch is tied down with a steep crotch angle between it and the leader, a vigour response will occur off the back of the branch. This creates more cuts at pruning time and clutters the canopy space. Reducing this crotch angle promotes a calmer growth response. Hooped branches, which start on the leader halfway between wires should not be used. These types of branches waste valuable space on the wire, become vigorous and create unnecessary clutter in the between wire space – these spaces between the wires are known as the ‘windows.’

The weight of the branch chosen to fill the wire is important for both vigour control and further canopy development. Branches that are less than 30% of the trunk diameter should be tied in. Thicker, heavier branches will have a greater sap draw than a smaller branch. The tree will allocate more resources to the heavy branches and reduce the allocation for vertical growth. Therefore, if tied in, the wires above a heavy branch will be harder to fill. The branch cross-sectional area (BCA) of heavier branches will show that they have the capability of carrying more fruit than that wire space will allow for. This will cause an excessive vigour response, which can be avoided by training in the weaker wood.

Tying down branches regularly through the season, starting when the branches have a length of 25-30cm, will improve bud density and lower vigour. If possible, don't train in branches that are directly opposite each other on the trunk. These branches can create a chokehold on the leader and can reduce its vertical growing power. Two to five centimetres between the two opposing branches is preferred.



Early canopy development: Years one to three

Removing any feathers and starting the trees as rods allows for all branches to begin growth at the same time. Wires should be filled progressively, from the bottom to the top of the canopy. During this stage of canopy development, the focus is on establishment and filling the wires with fruiting wood. Filling the bottom wire early is particularly important as the taller the tree grows, the harder it becomes to direct sap flow to those lower branches. Yield in a 2D system is capped by the kilometres of fruiting wood on the wires. By missing an opportunity to fill the bottom wire in an eight-wire system, you will lose an eighth of the canopy kilometres.

Growth from two opposing branches creating an overlap along the wire requires a management decision. Do you cut both back, or do you remove one and favour the other? This decision should be made depending on the size and vigour response of the two branches. One branch can be removed, leaving the other to run across the wire to the opposite leader. Alternatively, both branches can be cut back, with the consideration of the vigour response of the variety. For either scenario, the cutting of overlapping annual wood should be delayed until year two. In the case of removing broken or diseased wood, the opposing branch can be grown out right across the wire to fill the gap.

“

**For either scenario,
the cutting of
overlapping annual
wood should be
delayed until year two**



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Branches have been well trained to the top wire but the right hand branch on the bottom wire has started too high up the leader. This should be cycled out with a better option, such as the next branch further down



A successful notching result on a previously blind section of wood

“

Formal 2D canopies are a popular option for redevelopment scenarios but the management approach required is quite different to that of a tall spindle system



Mature canopy: Years four to ten

Once the bottom wires are established, attention can then shift to filling the top wires. Branches which were tied in using the ‘fill the wires’ principle can now be cycled out if better options have become available. If the wrong branches are left in, over time they become too strong and vigorous.

Spur pruning now becomes the predominant focus in the mature canopy. Pruning should achieve set targets, based on BCA and floral bud analysis. Spacing of buds along the branch and removal of those underneath is the priority, with notching used in blind areas.

During this phase, vigour control becomes more important to maintain the narrow characteristic of this canopy style. Once the canopy is more mature, the windows created between the wires need to be kept open to maintain light penetration. Crop load is an important vigour control tool, as is the application of plant growth regulators. Well timed Regalis applications reduce the shoot growth extension and keep the canopy compacted around the wire.

As the 2D canopy carries a high fruit quality expectation, it is crucial to keep the windows open to achieve this.

Formal 2D canopies are a popular option for redevelopment scenarios but the management approach required is quite different to that of a tall spindle system. This canopy style is time sensitive to tasks and requires regular attention to achieve the reputation of consistent and highly coloured fruit. Using the three simple tree training principles in a timely and systematic approach, will help achieve the light environment and harvest management benefits this canopy enables. ●



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Precision agriculture for plant nutrition

Precision Agriculture is a term used to describe fine-tuning of land management with the use of the Global Positioning System (GPS) where growers can mark and measure crop harvest variances within a particular field and try and determine the cause of these variations.

By Robin Boom

The United States National Research Council defined Precision Agriculture as: the application of modern information technologies to provide, process and analyse multisource data of high spatial and temporal resolution for decision making and operations in the management of crop production.

In the past it has mainly been used in large, broad acre cropping farms in North America and Australia for grain and oil seed crops where a field can often be hundreds of hectares in size and the harvester records yield variations via GPS. Growers, agronomists and other rural professionals can then GPS map soil tests from the better and poorer areas and compare them.

Sometimes the yield differences may have nothing to do with soil chemistry and may be related to soil physics,



drainage or some other factor. But more often than not, the differences are fertility related. Historically the field would have had the same fertiliser inputs blanket applied at the same rate. All too often, all the fields on large farms are treated with the same fertiliser mix and rate. Precision agriculture refines the nutrient inputs to specific areas to address known deficiencies, and ensures that nutrients are not applied to those areas within a field that do not require them. For instance, there may be a certain section that requires lime, whereas other parts of a field may have good pH (acidity/alkalinity) and calcium levels. Applying lime to these areas would not only be a waste of money and effort but could do more harm than good, as too high pH levels can impact on the soil's ability to retain other elements such as magnesium and potassium; and micro-nutrients –

boron, iron, manganese, copper, cobalt and zinc – become less available from liming. Through intensive soil testing, parts of a field that are low or high in phosphorus can be identified. Excessive phosphorus applications are not only a waste of money but can cause run-off, leaching phosphorus into New Zealand's waterways causing eutrophication and toxic algal blooms.

I have always advocated for a much broader soil audit than those done by most fertiliser reps. Normally, these reps only test for six elements, yet plants need 16 elements and animals need 17 to grow and function properly. Micro-nutrients play important enzymatic roles in plant nutrition, assist with defence against diseases and act as catalysts for the absorption and uptake of macro-elements.

Under some forms of intensive horticulture, copper sprays have been and still are liberally used. High copper levels have been found under some kiwifruit vines where copper has been the go-to solution for controlling *Pseudomonas syringae pv actinidiae* (PSA). Excessive copper can impact on the availability of other micro-nutrients such as iron and zinc and will also negatively affect phosphorus availability. It also impacts on soil biology, not only controlling undesirable fungi and bacteria, but also inhibiting the positive soil micro-organisms too.

“

Plants need 16 elements and animals need 17 to grow and function properly

For high value fruit and vegetable crops, where yield differences exist even within small areas, it is worth separately testing the high and low yielding areas to ascertain what is missing – or conversely what is phytotoxic to the plants. With the current high shipping costs of macro-nutrients being one of the drivers for fertiliser price increases, some of the essential micro-nutrients which are not required in large amounts are likely to remain relatively cheap compared to the macro-nutrients nitrogen,

phosphorus and potassium. Elements such as boron, iron and manganese can make big yield differences if they are low in certain crops.

In recent years, a number of farmers have done all-paddock testing on their properties and made considerable savings in fertiliser input costs as they target specific elements to be applied only on those paddocks that need them. Over a couple of years they have been able to even out these differences so the entire farm can be treated with the same fertiliser mix once again.

“

In recent years, a number of farmers have done all-paddock testing on their properties and made considerable savings in fertiliser input costs as they target specific elements to be applied only on those paddocks that need them

Price increases on locally manufactured superphosphate-based fertilisers have been less than on the imported, high analysis and compound fertilisers most commonly used in cropping and horticulture. Considerable savings can be made using locally manufactured phosphate fertilisers, urea and potassium chloride/sulphate for NPK elements, compared to the likes of DAP (diammonium phosphate), Nitrophoska and YaraMila. A problem with these compound fertilisers is that they contain a certain ratio of nitrogen, phosphorus and potassium which is usually broadcast everywhere at the same rate. Whereas Precision Agriculture, using GPS and more intensive soil testing data to target the application of specific nutrients only where they are needed, becomes a win-win for the both the bank balance and the environment. ●

Robin Boom is a member of the Institute of Professional Soil Scientists.



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METSERVICE UPDATE

Spring has sprung: Two Red Warnings and drought



By Georgina Griffiths : Meteorologist, MetService

Winter of 2021 has had an 'extreme' feel to it - with flooding rains and drought featuring and a highly damaging June tornado thrown in for South Auckland.

MetService is New Zealand's only authorised provider of Severe Weather Watches and Warnings. Since introducing a new colour-coded system of Warnings in May 2019, only four **Red Warnings** have been issued. MetService reserves a Red Warning for only the most extreme weather events, where significant impact and disruption is expected.

This year, three red severe weather warnings were issued in relatively quick succession.

At the end of May, MetService issued its second Red Heavy Rain Warning for the Canterbury region. Dangerous river conditions and flooding were expected.

In mid-July, MetService issued its third Red Heavy Rain Warning, forecasting an extended and extreme heavy rainfall event for Buller and Westland north of Fox Glacier, with significant rainfall also expected for Nelson and Blenheim.

Both of these Red Heavy Rain Warnings were on the money, with each event being highly damaging.

A Red Severe Wind Warning was also issued for the Canterbury High Country on 12 to 13 September, with extreme gusts and significant damage observed in elevated areas.

In contrast, Auckland, Coromandel, Bay of Plenty, Gisborne and Hawke's Bay remained unusually dry through until June, and these were areas that had experienced back-to-back droughts through 2019 and 2020. Soil moisture in these regions remained in deficit considerably longer than usual (Figure 1, showing Napier as an example).

At the time of writing, the year-to-date rainfall for Napier Airport was sitting at 55% of year-to-date normal (Figure 2), while Te Puke had recorded 82% of year-to-date normal rainfall.

In contrast, year-to-date rainfall for Blenheim and Christchurch was 117% and 109% of year-to-date normal, respectively (Figure 3).

Nationally, New Zealand experienced its warmest winter on record in 2021 - breaking the previous record set in 2020.

Spring has sprung

The El Niño-Southern Oscillation (ENSO) remains neutral at the present time. However, there is recent chatter about a resurgent La Niña for summer - in other words, a second-time-around La Niña. If La Niña does return by the end of the year, current modelling suggests it will be on the weaker side.

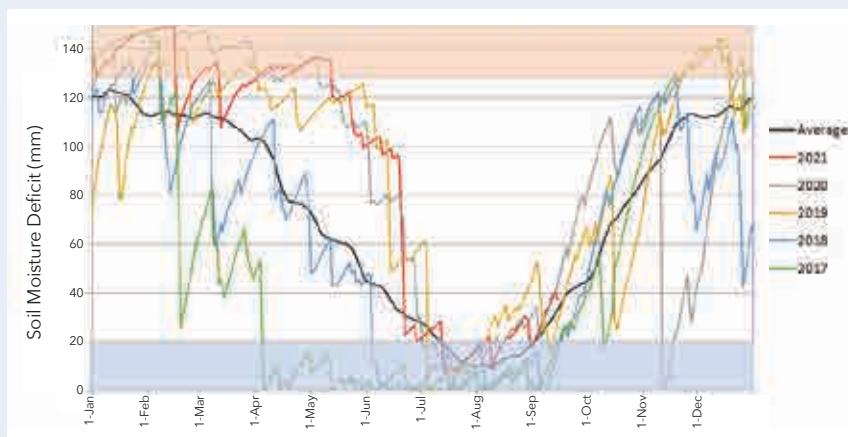
What's likely to be a more important player in New Zealand for spring (September to November), is a sharp change in weather maps. The latest long-range predictions from MetService, based on running a large group ('ensemble') of weather models, signal a quick transition from the active westerlies that have characterised August and early September, towards more Highs than usual lying over the South Island.

Given the time of year, what this will likely mean, in practice, is a mixture of some good old fashioned spring westerlies and intense but intermittent Highs over the South Island.



Keep up to date with the MetService long-range forecast at: <http://metservice.com/rural/monthly-outlook>. ●

Figure 1: Napier soil moisture deficit



Napier Airport estimated soil moisture deficit (SMD), shown in mm of deficit for the last five years (2017 to 2021-so-far). SMD is calculated based on ingoing daily rainfall (mm), outgoing daily potential evapotranspiration (PET, mm), and a fixed available water capacity of 150 mm (this is the amount of water in a theoretical soil 'reservoir' that plants could utilise). Soil moisture deficit in Napier in 2021 remained in extreme soil moisture deficit (signalled within the orange band) for most of the summer, and tracked similarly to 2019 and 2020 during autumn. Napier soil moisture only briefly approached field capacity (blue zone) in winter 2021, before drying out again during the first two weeks of spring due to enhanced westerly winds.

Figures 2 & 3: Rainfall accumulation

Figure 2: Napier and Te Puke annual rainfall accumulation (mm) for the last five years (2017 to 2021-so-far). The annual average rainfall accumulation is shown in black.

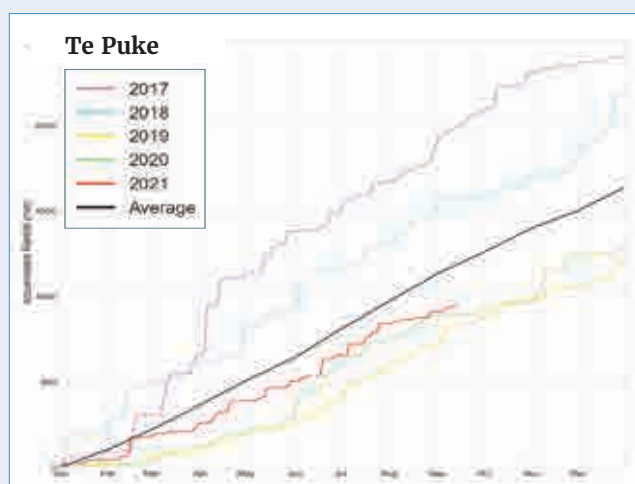
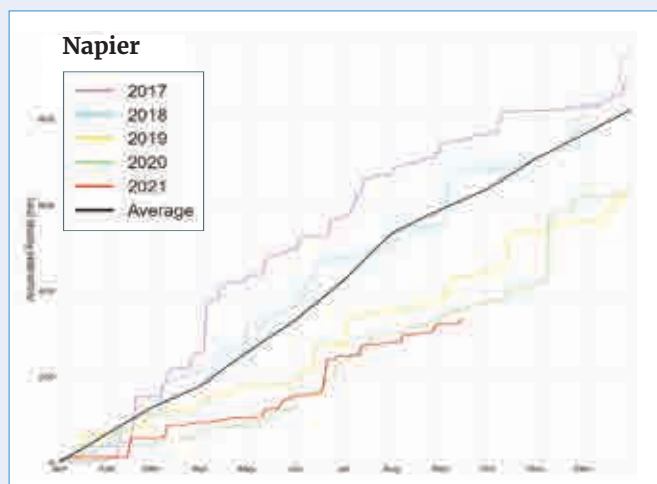
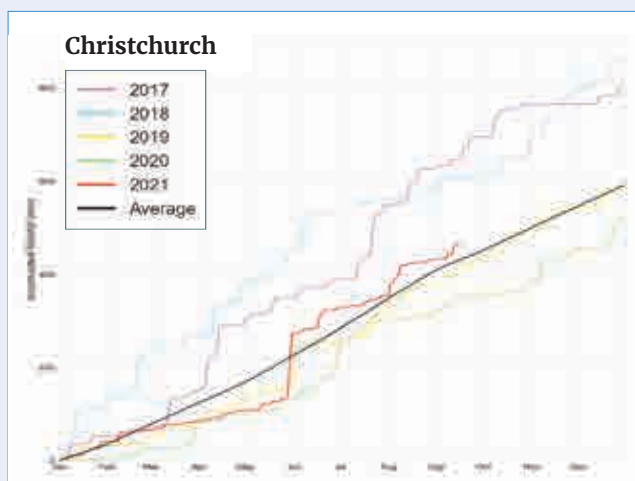
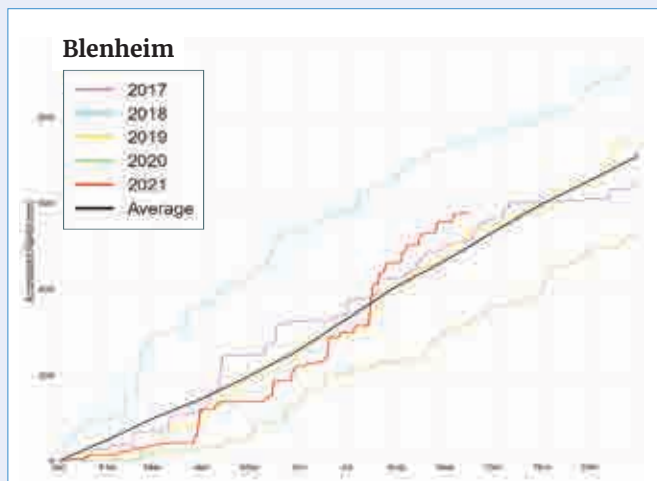


Figure 3: Blenheim and Christchurch annual rainfall accumulation (mm) for the last five years (2017 to 2021-so-far). The annual average rainfall accumulation is shown in black.



Technology helps capture yield potential

It's mid-winter in Central Otago and on a cherry orchard at Coal Creek near Roxburgh, Jered Tate is taking advantage of the off-season to work on his latest batch of kirsch.



Jered Tate of Jerry's Cherries and Paul Bridgeman of Nufarm

He's been interested in distilling fruit brandy for years, but it wasn't until 2020 that he geared up to produce commercial volumes, establishing Up A Tree distillery.

It's one way to help buffer the business against the effects of ongoing labour shortages caused by the global Covid-19 pandemic.

As a rule, Jerry's Cherries, which he started in 2015, sells all its crop fresh to the local market.

At 2.5 ha, it's a small orchard compared to the scale of some of today's developments, but it's big enough to encompass a wide range of varieties, including Staccato, Samba, Sweetheart, Stella, Burlat, Dawson and Lapins.

Jered had no orcharding experience when he moved south from Auckland to buy the original property. He has since added another 24 ha of stonefruit and pipfruit at nearby Fairview Orchard.

Making the most of fruit set is a high priority for the cherries, and for the past five seasons he has used an ethylene inhibitor which is more commonly applied to slow fruit ripening to help in this regard.

"It can be super challenging to grow cherries in the first place; we want to be maximising our yield at every opportunity."

ReTain is a naturally occurring plant growth regulator which reduces ethylene production in plant tissue.

Applied as a flowering spray to hard to set cherry varieties, it delays flower senescence, giving flowers a better chance for pollination and fertilisation.

As soon as the cherry flower opens, the stigma, one of the female parts of the flower, begins to senesce, and in some varieties it is viable for a shorter time than others. ReTain effectively keeps the stigma alive for longer.

Delaying flower senescence also has significant benefits when variable weather over flowering affects bee activity.

ReTain has been registered for this use in New Zealand since 2016.

Jered is selective in his use of the product because not all trees need it, but on certain varieties the result is significant yield improvement. On Staccato, for example, which can be notoriously challenging when it comes to setting a full crop, "we've had at least 50% increase in fruit set. That's well and truly worth the investment."

Running out of ReTain with one row to go last spring clearly highlighted the benefits, with treated trees flowering for three to four days longer than those which missed out, and setting many more fruit per bunch.

Success comes down to careful timing and keeping a close eye on trees as flowering progresses.

"You've got to be following the advancement of your crop. The recommendation is to apply at 30% flowering, and for Staccato the difference between one morning and the next could take you from 30% to 70%, so it's critical to be aware of what's going on."



Without ReTain



With ReTain

For best results, Nufarm development manager Alan Cliffe recommends growers follow these guidelines:

- The application window is very short and accurate timing is essential so make sure you're prepared and have a supply of ReTain on hand.
- Monitor the development of blossom on trees closely.
- Aim to apply ReTain at 30% bloom.
- Apply ReTain alone – adjuvants are not recommended for blossom sprays. ●

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**ReTain is a registered Trademark of Valent BioSciences Corporation, IL, USA.*

NZFoam to the rescue

Heating is expensive. However, transforming an old or new shed into a dry, temperature-controlled, commercially viable building has proved possible with NZFoam.



Rakaia Hub is a storage facility for potatoes, tulip bulbs etc

Spray polyurethane foam has been in New Zealand for 40 years and is the preferred insulation product globally. Foam's rediscovery and redevelopment came out of director Chris Haughey's frustration and dogged determination to find a solution for inefficient buildings, without the shortfalls of other products.

Along with Rob Leach and his crew, with headquarters in Canterbury and a hub in Auckland, the team service from Cape Reinga to Bluff, working with builders and architects for renovations and new builds.

Water and air tight, it keeps out all outside contaminants, is safe, environmentally sound and completely inert – with no off-gassing or formaldehyde. It's made from 22% renewable and recycled content including sustainable soy-based oil and plastic bottles.

"It is completely self-extinguishing. Data sheets and fire tests are incorporated as part of the CodeMark industry standard." Chris says.

NZFoam has one of the highest R-values on the market. Sprayed on, with no gaps or corners, it goes around any curve or corner, never moving or sagging over time. Foam can be also used on building exteriors, if painted, and under wooden floors in any ground condition – and is adhesive to concrete and steel.

For David Waddy of Scargill in North Canterbury, NZFoam mitigated the expense of a new roof in his woolshed. With the water-tight, damp-proof solution, sheep now stay dry – even in extreme weather.



Lance Roper and Chris Haughey at the Roper & Son shed in Lincoln

Nigel Reith of Rakaia Hub Potato Storage facilities says foam has economically transformed his business in regards to running costs and quality control.

“

Foam requires no maintenance and has a zero-lifecycle cost, lasting the life-time of the building

Lance Roper's Selwyn onion farm now stores product onsite in a converted chicken shed, cutting costs, thanks to the temperature-controlled environment heated and cooled by NZFoam and Snow Temp air conditioning. And a Palmerston North deer shed produces half a tonne of fodder daily, with the NZFoam solution at the helm.

"Foam requires no maintenance and has a zero-lifecycle cost, lasting the life-time of the building."

"We confidently offer a 25-year plus guarantee for optimum performance and commit to bettering client expectations as to what spray foam insulation can achieve." ●

To learn more visit www.convertmyshed.co.nz or www.nzfoam.co.nz

Mastering thinning chemistry BreviSmart®: The science optimising thinning timing

Finding the elusive 'sweet spot' between over-thinning and under-thinning apples has tested even some of this country's most experienced and successful orchardists.



When traditional approaches, hand thinning and highly weather-dependent plant hormone-based thinners weren't working, ADAMA New Zealand took a different tack, an innovative approach backed by data, science and collaboration.

It began with photosynthesis-inhibiting fruitlet thinner BreviSmart®, now used in 30 countries worldwide.

Applied when fruitlets are about 8-14 mm in size and mimicking the effect of shade, BreviSmart reduces the production of carbohydrates by the tree. Remaining carbohydrates are sent to shoots and to the largest, dominant 'king' fruitlets at the expense of smaller fruitlets, which start to drop in seven to 10 days after treatment.

Growers welcomed the chemistry due to several advantages including easy measuring for tank mixing, no requirement for surfactants or other additives, and rain-fastness in two to three hours.

ADAMA didn't stop there, as Netherlands-based Global BreviSmart project manager Ton Besseling explains: "Growers everywhere were looking for a tool that recommends when and how to apply the thinner for best results.

"With BreviSmart we can predict the optimum time to apply BreviSmart, the best day of application for the best thinning response."

In developing the BreviSmart algorithms, ADAMA amassed in-depth knowledge of the impact of weather and other factors on thinning efficacy. BreviSmart takes into account the effects of night-time temperatures, radiation (sunlight), fruitlet size, and apple variety.

Weather data and forecasts from The Weather Company, an IBM business, support growers' decisions on when and how much BreviSmart to apply. Data for five days (including the day of calculation) is sourced from the weather station closest to each orchard.

A report is then generated using a traffic light system (yellow for reduced thinning conditions, green for good thinning conditions, red for strong thinning conditions). Reports are produced daily during the thinning season.

Over 800 trials worldwide have contributed to the BreviSmart programme to date. Ton says when a new variety has over 1,000 hectares planted, trials begin.

"This ongoing work is critical to supporting advisor and grower decision-making."

He says growers appreciate the science BreviSmart brings to the thinning equation. "Ultimately, they feel more in control."

New Zealand orchardists and advisors using the technology for the first time last season reported that BreviSmart had been an important tool backing their own assessments. BreviSmart significantly decreased hand thinning and also the time spent physically monitoring blocks.

ADAMA New Zealand commercial manager Damian MacKenzie, National Lead for BreviSmart, says the more thinning knowledge gained the better. "That way we can further tailor our response to advisors' and growers' needs and enhance the quantity and quality of the fruit they take to market, and their profitability." ●

www.adama.com/new-zealand

Timing is everything

Contact
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today to get
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When it comes to apple thinning, timing is crucial – apply too early, or too late, and the results can be disastrous.

So, we developed BreviSmart to help you optimise your timing of BREVIS®. Based upon extensive local and international trials, this invaluable tool factors in solar radiation, temperature, fruitlet size and variety, delivering critical insights on the best times to spray.



BreviSmart®

One less worry.

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The predictions generated by BreviSmart are designed to support you and the final recommendations. Please note that these predictions are one of several key factors you need to take into account before building any recommendations.

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Helping Rural New Zealand Thrive – introducing Kim Ballinger, AsureQuality CEO

Kim Ballinger has been in the chief executive role at AsureQuality since mid-December 2020. She is passionate about Aotearoa and has a vision of helping rural New Zealand thrive – now and in the future.

Kim grew up in Invercargill, entrenched in the farming sector and learnt first-hand how important the primary industries are to New Zealand.

“This absolutely defined me as a person” says Kim, “it led me to realise that I love our country and want to work for New Zealand, within industries that are important. I’m at a point in life where I was looking for more than just a role, for me it was about going back to my personal purpose – helping rural New Zealand thrive. AsureQuality is a very broad business which supports Aotearoa’s growers, farmers and producers, and it really ticks all the boxes for me.”



For me it was about going back to my personal purpose – helping rural New Zealand thrive

This past year has presented many challenges for the horticultural sector with Covid-19 related issues, new regulatory requirements, and a world that continues to change. Environmental sustainability has become a core focus and AsureQuality is committed to supporting customers as they move towards this. There is still a lot of confusion when it comes to sustainability because the recommendations are still quite new and it's not yet completely clear what it will all mean in practice.



AsureQuality wants to offer support to navigate these changes – and not just from a customer point of view, but also at an industry level and feeding back into government. “We absolutely understand that these changes need to be sustainable for growers, and we want to help make sure that their voices are heard,” says Kim.

Kim would also like to see more pre-competitive industry collaboration – with the industry coming together to work on shared challenges and where the whole industry stands to benefit. “I see a clear role for AsureQuality in bringing all of the different parties together. We are New Zealand government-owned, and our name represents independence of the highest quality. We also don’t have any vested interests because we’re not selling the goods.”

Another focus for AsureQuality is working towards the creation of an integrated assurance platform to accurately and efficiently capture, utilise and share relevant assurance-related data, information and insights to meet current and emerging needs of the food and primary industry sectors. “We’ll achieve this by implementing best-in-class systems, technology and processes which will simplify things for growers, farmers, producers, processors and their customers” says Kim. “This will ultimately help producers meet the global demand for supply chain traceability and solidify New Zealand’s reputation for an exporter of premium produce.”

Consumers around the world are also driving change as they want to have confidence when making food choices. AsureQuality adds value by helping to build and protect that enduring trust in a marketplace that is increasingly filled with unsubstantiated claims. “We can verify this information end-to-end. I feel that AsureQuality is perfectly positioned to help New Zealand’s primary industries take that next step: Taking one united NZ Inc to the world. There’s a lot of opportunities ahead and I’m excited to be part of this journey.” ●

www.asurequality.com

A new level of confidence in DMI chemistry

There's only one chance each year to produce a profitable crop, so it's important that growers are equipped with the right tools to get it right. Belanty® Fungicide from BASF is an exciting advance in crop protection that gives excellent control against powdery mildew in grapes, black spot and powdery mildew in apples and black spot in pears.



Belanty sets a new benchmark for DMI (DeMethylation Inhibitor) chemistry and has been formulated specifically to meet today's consumer and environmental expectations. This means New Zealand growers can have more confidence in producing top quality fruit that meets strict market specifications.

Belanty has fast plant uptake, resulting in excellent rainfastness. Its active ingredient is slowly released into the leaf tissue, which gives longer residual activity. Importantly, the withholding periods for grapes, apples and pears are set so that growers can achieve nil detectable residues at harvest, enabling access into all export markets.

The active ingredient of Belanty, mefentrifluconazole, is the only DMI fungicide of its type with an isopropanol 'neck' which gives the molecule the ability to change its shape. This gives it flexibility to bind tightly to the site of action in the pathogens. This ability to change shape allows Belanty to control pathogen strains that have reduced sensitivity to traditional DMI fungicides.

For grapes, two applications of Belanty at 80 mL/100 L water are recommended between early shoot extension and pre-bunch closure (the withholding period), as part of a complete disease control programme for powdery mildew. Belanty must be applied to grapes as a preventative disease spray programme.

The same rate (80 mL/100L water) is used for black spot and powdery mildew control in apples and black spot in pears. Up to four applications (but no more than two consecutive applications) can be made between green-tip and 80% petal fall (the withholding period). All Belanty applications in apples and pears should be tank-mixed with an effective black spot fungicide from another mode-of-action group.

As with any DMI fungicide, it is important to rotate fungicide groups to reduce selection for resistance in the disease pathogens, as recommended by the New Zealand Committee for Pesticide Resistance DMI Strategy.

This season there are 10 more reasons for apple and grape growers to add Belanty fungicide to their crop rotation. By purchasing Belanty and three other BASF products between 1 August 2021 and 28 February 2022, you enter the draw to win one of 10 \$3,000 travel vouchers! Terms and conditions apply. ●

Belanty®
Fungicide



Visit: crop-solutions.basf.co.nz to find out more.

BASF
We create chemistry

Vayego® 200SC Insecticide

A New Tool for Apple Growers to control Codling Moth, Leaf Roller Caterpillar and Bronze Beetle.

With a brand new registration in 2020, the Bayer insecticide Vayego is a valuable tool for Pipfruit growers.

"Providing excellent efficacy against codling moth, leaf roller caterpillar and bronze beetle, Vayego offers a new versatile and flexible option for growers to incorporate into their seasonal pest management programme" says Marc Fox, horticulture market and territory manager for Bayer.

Vayego 200SC is a liquid formulation containing the active ingredient tetraniliprole, a Group 28 Diamide insecticide which is a new active ingredient to the Pipfruit industry.

With over 4,000 trials performed globally, as well as a rigorous trial programme in New Zealand, Vayego has demonstrated excellent efficacy across the Lepidoptera and Coleoptera species targeted. These trials have shown that Vayego has some attractive properties that contribute to its versatility, safety, strength and performance. One of which is the fact that it is active on all three of the life stages of codling moth, from eggs to adults. While the main control comes from larval ingestion, eggs can also be affected if laid on treated leaves and fruit, or if they have already been laid, and then treated with Vayego.

Rapid feeding cessation is also a feature giving strength to codling moth control. Larvae lose muscle control, become immobile, and cease feeding immediately after application, giving the benefit of less damaged fruit. Vayego is also locally systemic which ensures distribution throughout the leaf, helping to maximise coverage.

"A further feature Pipfruit growers will find beneficial is the label claim for bronze beetle control," Marc adds. "Efficacy was proven by Plant & Food Research in bioassay work, before being backed up by field trials over the last few years. As a third string to its bow, this makes Vayego a very versatile option for pest control for Pipfruit growers."

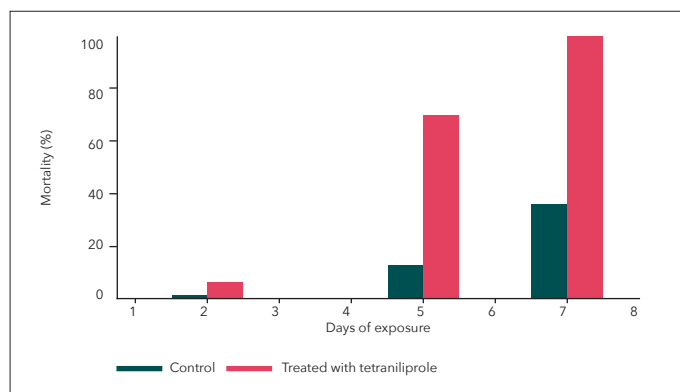
Vayego is recommended to be used from seven days post petal fall through to early December at a rate of 15 mL/100 litres of water as a dilute spray to the point of run-off. If concentrate spraying is used, then the rate must be adjusted accordingly.



Bronze beetle damage in apples

For best practice resistance management, it is important that Vayego is used as part of a seasonal pest control programme that incorporates other chemistries with different modes of action. Marc says "resistance management guidelines state that Vayego should only be applied to one generation of codling moth. Applying Vayego according to the label will protect insect management for the future."

Vayego has a high level of crop safety, both when applied on its own, or when mixed with a wide range of tank mix partners. ●



The mean percentage mortality of field-collected bronze beetles in the untreated control and after exposure to fresh residues of tetraniliprole in a laboratory bioassay. The tetraniliprole was applied at 15 mL/100 L to apple leaves at the Plant & Food Research orchard in Hawke's Bay.

For more information on using Vayego in Pipfruit, contact your Bayer territory manager or merchant representative or visit cropscience.bayer.co.nz



Vayego® is a registered trademark of the Bayer Group



*Break the cycle **fast!***



Unique, fast acting and systemic control of Codling Moth, Leaf Roller Caterpillar and Bronze Beetle in Pipfruit.

- New chemistry with a unique spectrum of pest control
- Strong proven activity against all life stages of moths
- Fast cessation of feeding with systemic activity and excellent length of activity
- Soft on key beneficials

Insist on Vayego from Bayer today!

We're with you in the field | cropscience.bayer.co.nz/vayego

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Looking for a better way to grow?

These three kelps thrive in some of the most challenging conditions our planet has to offer



Knotted Kelp
Ascophyllum nodosum



Chile Bull Kelp
Durvillaea antarctica



King Island Bull Kelp
Durvillaea potatorum

Harness their strength to deliver a natural nutrient boost to your crop

These hardy kelps have adapted to withstand the extreme physical and environmental stress of ocean conditions, where they need rapid growth and strong root development to survive. Seasol's unique, patented manufacturing process, developed over 40 years, allows us to combine the valuable growth-boosting properties of all three kelp species into one proven bio-stimulant tool.

Our \$10 million R&D program has demonstrated that Seasol's uniquely potent formula has the power to increase yields and enhance crop quality, as well as improve resistance to harsh environmental conditions such as extreme heat, water scarcity and frost. Helping you maximise your growing program, ensure crop resilience and enhance the shelf life of your produce. Put simply, it's a better way to grow.

Deliver the bio-stimulant benefits of 3 kelps to your crop

Reduce impact of
environmental stress
& extreme weather



Improve
yield



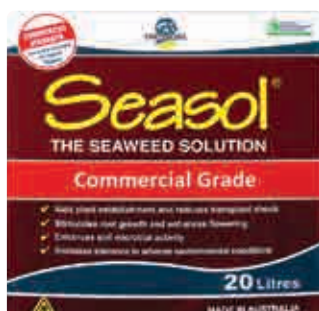
Enhance
crop quality



Reduce damage
during harvesting
& packaging



Generate
longer shelf life



Keep your farm more productive and sustainable with Seasol's range of organic and environmentally friendly products

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