

# Citrus News

July 2024

## 2024 Citrus New Zealand AGM and Conference

*Mark your calendars and get ready for an informative and exciting day at the Citrus NZ Annual General Meeting and Conference! 🌟*

This year it's extra special as we celebrate 30 years since the incorporation of NZCGI! 🐛

**Date:** Wednesday 18 September 2024

**Location:** Farmers Air Event Centre, 20 Main Rd, Makaraka, Gisborne

### Event Highlights:

- **Conference:** Kicks off at 9:00 AM
- **AGM:** Starts at 3:00 PM
- **Citrus Cocktail Hour & Industry Dinner:** From 5:30 PM, with special guest speaker Kerre Woodham

We'll be talking about all things citrus, sharing exciting updates, and looking ahead to the future. Plus, it's a great chance to meet fellow members.

*We look forward to seeing you there!*



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## Citrus NZ Board Portfolio Updates

### Wayne Hall - Citrus NZ Chair

The recent CNZ 'shed meetings' that were held in Gisborne, Tauranga and Kerikeri were well received by growers. This is the second year that we have run the meetings, and it once again provided a great opportunity for the CNZ board and management to listen to what growers had to say about their industry. The CNZ team provided presentations to update members on current and planned R&D projects, as well as the upcoming renewal of the citrus commodity levy order.

The winter months have thrown up some real challenges on the citrus front. The weather bomb that hit the Gisborne region at the end of June, coupled with the continual wet conditions and lack of sunshine hours for most of July, has resulted in a mixed bag of fruit quality, not only 'on orchard', but also in the market. Late season satsuma fruit quality has been negatively impacted by the conditions, and some growers have struggled to keep up with their fungicide applications that are required to protect against fruit rots. Packhouses are under pressure to keep their packed product clear of rots. I recently visited some supermarkets in Hawkes Bay and pulled out some oranges

affected with brown rot, that were on display in one of the stores. Not a great look for NZ navel!

On the taste front, we are delivering navels from all regions that once again taste superior to any imported product. We must continue to promote NZ product, as there appears to be a consistent issue with Australian navel imports again this season, which are still appearing on our supermarket shelves well into July. This issue appears worse in some of the South Island supermarkets.

We look forward to your attendance at our upcoming CNZ Conference and AGM which is taking place on September 18<sup>th</sup> in Gisborne. We encourage growers to come along to hear what is happening in your industry. This year marks our 30<sup>th</sup> anniversary and we have some great presentations and entertainment planned so lock the date in your diary.

*Happy growing everyone.*

**Wayne**







## Matt Carter: R&D / Biosecurity Portfolio Update

It was great to see good turnouts at the series of CNZ Shed Meetings around the country. Unfortunately, I couldn't make it to the Gisborne meeting, but I did attend and meet with many growers at the Bay of Plenty and Northland meetings. It's always good to be able to talk face to face about the R&D projects and get some feedback. It's levy money paying for these projects and we want to make sure we are looking at things that growers want and will take the entire industry forwards in a sustainable and profitable way.

As you would have heard (and can see in this edition of Citrus News), the Future Orchards project will be a keystone of our R&D going forwards. Although it started with thoughts around trellising and orchard structures, not all growers will be able to take advantage of that, and so it was decided to make an all encompassing project, ensuring all growers will gain benefits from the work that will be done. The themes will cover all aspects of citrus growing. In particular the "Productivity" theme will continue to research and test new chemistry and biologicals for pest and disease control, weed control, and growing methods. There is a piece in there on Rootstocks, an area that hasn't developed much in New Zealand in recent years.

Technology, data and people capability will all be key areas that will assist with growing and orchard management, whilst the resilience area will look at ways of mitigating climate risk and looking at environmental factors. These will be just as important as growing the crop as we move forwards from a regulatory and marketing point of view, so this project aims to have tools in place over time to assist growers with these issues.

The New Variety project, which has evaluated, selected and planted in trials, 12 promising new mandarin varieties from the Plant and Food Research block in Kerikeri, is

moving forwards. The selections made have been based on good flavour, colour, size, seedlessness, and timing characteristics as well as tree health and disease resistance. There is now an established trial block in the Gisborne area, and (in breaking news...) a Northland trial site is about to be signed up as well. All being well, this will be in place shortly with planting happening in Spring 2024. Work is ongoing with Plant and Food Research on the commercialisation options for these varieties in the future. The main aim is that any CNZ grower will have access to these varieties should they wish to plant them. Royalties will be a factor in any selections that are commercialised, but the varieties will not be tied to any particular marketer or grower.

Many other R&D projects are ongoing including our involvement in the "A Lighter Touch" program, which is beginning to deliver more benefits specifically to citrus. Our work with MPI on our Operational Agreements with regards to citrus specific pests e.g. ACP (Asian Citrus Psyllid) and HLB (Huanglongbing - Citrus Greening Disease), as well as Fruit Fly, and the Biosecurity Workplan which has recently been endorsed by the Board to continue our readiness for any biosecurity incursions.

The CNZ Conference is shaping up to be a great event. The management and board are putting a huge effort into making this 30<sup>th</sup> anniversary of CNZ/NZCGI the best ever. As you will see, we have Nate and Anna Jameson coming in from Florida to speak. This is a massive opportunity for all growers to hear their firsthand experience with living through ACP and HLB. They are fantastic speakers, and it's a real credit to CNZ to be able to get them here for the benefit of everyone. I have heard them speak at the Australian Conference, and you don't want to miss it!





# Citrus NZ Shed Meeting Report

***We had three fantastic and well-attended shed meetings recently: one in Gisborne on June 24th, one in Tauranga on July 2nd, and one in Kerikeri on July 3rd.***

The Gisborne session took place at Waerenga-A-Hika Hall, which was an excellent spot for bringing together growers, marketers, and other industry folks in a bigger setting.

In Tauranga, we gathered at Rowan Wallace's Nga Puawai Orchard. Rowan's orchard, nestled in the Kaimai ranges, offers a unique set of challenges for those brave enough to tackle that environment. The weather threw everything it had at us that day, but it didn't dampen anyone's spirits.

Kerikeri's meeting was hosted at Kainui Pack & Cool packhouse. Alan Thompson and his team were incredible hosts and even gave the NZ Citrus team a tour of their modern packhouse facilities.

These shed meetings are a great way for the Board to connect with citrus growers, talk about challenges, and get feedback on what Citrus NZ is working on, all in a laid-back, local setting.

Here are some key themes we covered:

- R&D updates, including the Mandarin Variety Trials
- Launch of the Biosecurity Readiness and Response Guide as part of the Grower Guide module series
- Updates on recent meetings with Foodstuffs and Woolworths



- Info on the new Commodity Levy Order
- Changes to NZCGI rules
- Plans for the 30th anniversary Conference and AGM in 2024

And most importantly, hearing directly from growers.

Thanks to all the growers and industry reps who came out, shared their thoughts, and participated in the discussions.

A special shoutout to Rowan Wallace of Nga Puawai Orchard and Alan Thompson of Kainui Pack & Cool for letting us use your venues and having your key staff help out on the day. We couldn't do these events without your support, so THANK YOU!

**Chrissy Williams**  
Executive Manager





## Join Us for the Citrus NZ Annual Conference and AGM

***All citrus growers and industry representatives are invited to the upcoming Annual Conference and AGM, an event that promises to be both informative and celebratory. This year is particularly special as we commemorate 30 years since the incorporation of NZCGI.***

We are also thrilled to announce that this year's event is proudly sponsored by Woolworths, our Gold Sponsor. Their support is instrumental in making this event possible.

Event Date: **Wednesday, 18 September 2024**

Location: **Farmers Air Event Centre, 20 Main Road, Makaraka, Gisborne**

The program for the day is designed to offer valuable insights, updates, and opportunities for networking within the citrus industry. Here is what you can expect:

### Annual Conference

The day will begin at 8:30 AM with registration and networking with our Annual Conference beginning at 9:00 AM. Sessions will cover the latest trends, developments, and research in the citrus industry, providing a platform for knowledge sharing and discussion. There's more information in the programme

on the next page.

### Annual General Meeting

At 3:00 PM, we will convene for the Annual General Meeting. This is a crucial time for reflection on the past year and for planning the future direction of NZCGI. Member participation is highly encouraged, as your input is invaluable.

### Citrus Cocktail Hour & Industry Dinner

Following the AGM, we invite you to relax and enjoy the Citrus Cocktail Hour and Industry Dinner, starting at 5:30 PM. This year, we're thrilled to have Kerre Woodham as our special guest speaker. She's sure to entertain and inspire us all

### Registration Information

To ensure your participation, please register as soon as possible by clicking the link below and providing the information required:

**[CLICK HERE](#)**

We look forward to welcoming you to this special event and celebrating 30 years of achievements.

Best regards,

The Citrus NZ Team 

## Guest Speaker at the 2024 Citrus NZ Industry Dinner

### Kerre Woodham

Kerre began her television career on **Fair Go** and has made regular appearances on TV over the 35 years that followed, including **Intrepid Journeys**, **Heartland**, **Ready Steady Cook**, and **Dancing with the Stars**.

She has also hosted several TV documentaries, and written three best-selling books: **Short Fat Chick to Marathon Runner**, which went into an 8th reprint in New Zealand, **Short Fat Chick in Paris**, and **Musings from Middle Age**.

Currently, Kerre is a prominent radio personality, hosting the popular morning show on **Newstalk ZB**, where she engages with a wide audience on various current affairs and lifestyle topics.

Her vibrant personality and insightful commentary continue to make her a beloved figure in New Zealand media. Additionally, she writes a weekly column for the **New Zealand Woman's Weekly** and remains active in charity work, often participating in events and campaigns to support various causes close to her heart





# Conference Programme

***An exciting programme has been put together focusing on three key themes that are pivotal for the future of NZ citrus orchards.***

## Session 1: Future Orchards

We kick off by diving into the future, showcasing how new technologies can be a game-changer on orchards. Plus, we'll check out some new citrus varieties that could really boost productivity and profitability for NZ citrus orchards.

## Session 2: Biosecurity

Thanks to the generous support of **First Fresh**, we've got some amazing keynote speakers lined up: Nate and Anna Jameson from Brite Leaf Citrus Nursery. They'll share their experiences with the Asian Citrus Psyllid and Citrus Greening, which have wreaked havoc on the Florida citrus industry. We'll also spotlight the biosecurity activities that Citrus NZ is progressing to prepare the industry to respond to exotic pests and diseases.

## Session 3: Market Development

In this session, we'll explore domestic and export market opportunities. We'll discuss how on-orchard practices can enhance market development prospects and increase

returns for growers.

## Exhibition

Make sure you check out the exhibition running alongside the conference. It's all happening in the same venue, so there will be plenty of time to explore.

## Culmination

We'll wrap up the day with a relaxing Citrus Cocktail hour, followed by an industry dinner with guest speaker Kerre Woodham.

## Programme Schedule

8:30am: Registration and Networking

9:00am to 3:00pm:

- Session 1: Future Orchards
- Session 2: Biosecurity
- Session 3: Market Development

3:00pm to 4:15pm: Citrus NZ Annual General Meeting

5:30pm to 6:30pm: Citrus Cocktail Hour

6:30pm to 11:00pm: Industry Dinner featuring guest speaker Kerre Woodham



## Keynote Speakers at the 2024 Citrus NZ Conference

### Nate and Anna Jameson

Nate and Anna Jameson along with their son Nathan own and operate Florida-based Brite Leaf Citrus Nursery, located in Lake Panasoffkee, Florida, about 1 hour north of Tampa. They started in 1998 as an open nursery. Brite Leaf is now a fully enclosed, protected culture production system growing disease free citrus trees in the presence of HLB, Citrus Canker and Citrus Black Spot.

Nate and Anna earned Bachelor of Science degrees from the University of Florida. They both grew up in farming families and are very passionate about agriculture.

In addition to head grower responsibilities, Nate consults internationally on citrus nursery design that includes disease exclusion. He is the current president of the International Society of Citrus Nurserymen and the newly formed National

Citrus Nursery Association.

Anna serves on the Sumter County Farm Bureau Board of Directors and the Sumter County Ag Alliance, and she focuses on managing orders and production planning as well as all accounting functions at Brite Leaf.



***Many thanks to First Fresh who have been instrumental in helping to bring Nate & Anna to NZ.***

**A special thank you to all our key sponsors  
for their generous support.**





# Future Orchards Initiative

## Why Future Orchards?

Costs of citrus production, like many other horticultural operations, are increasing. Costs of labour for picking, pruning and orchard management, as well as the costs of other inputs (fertiliser, agrichemicals), has meant that the profitability of citrus orchards is declining. To address this declining profitability, many horticultural sectors are looking at ways to reduce costs and to increase productivity. Citrus NZ is looking at these issues and is developing a work programme that will support growers to look at orchard operations and new technologies that can help reduce some of these on-orchard costs and improve profitability. This programme is called "Future Orchards".

### ✿ Purpose

Future Orchards is a Citrus NZ-led initiative that aims to investigate and evaluate different approaches and technologies to lift the productivity and profitability of NZ citrus orchards.

### ✿ Vision

Our vision is that NZ Citrus growers are successful, profitable and sustainable, producing consistently high-quality fruit that is in demand by NZ and overseas consumers.

### ✿ Timeframe

Not all activities can happen at once. New technologies are maturing at an accelerated rate. Citrus NZ intends to stagger activities over several years and seek co-funding where appropriate.



5 key themes of Future Orchards

Themes	Activities
Productivity	Orchard intensification , New varieties, Rootstocks, Growing methods, Crop protection, Weed control, Post-harvest
New technology: Orchard	Automation: Robotics, Mechanisation
New technology: Data & precision	Data farming and precision agriculture, Mapping/GIS - Remote sensing , Disease monitoring, Yield estimation, Artificial intelligence, Crop sensors
Resilience	Climate change risk mitigation, Greenhouse Gases/Life Cycle Analysis
People capability	Skilled workforce



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# Biosecurity Update

## MPI prosecutes winegrower for illegally importing plant material

In May 2024, MPI prosecuted a prominent New Zealand winegrower for illegally bringing grapevine plant material into the country. He was convicted and sentenced to community detention and fined \$15,000 on two charges of breaching the Biosecurity Act. This was a serious matter that was extremely concerning for NZ Winegrowers who commended the nursery that raised the alarm. When MPI was notified they quickly responded, investigations were undertaken, and the plants were identified and destroyed.

Illegally importing potentially diseased grapevines could have put investments by grape growers and winemakers at risk, including 42,000 hectares of vines planted across the country. Plant material illegally brought into the country without undergoing testing and quarantine presents a very high risk as many pathogens can be difficult or impossible to detect visually. In addition, many exotic pests and diseases are not specific to one host, and illegal importation has the potential to adversely affect other primary industry sectors.

Citrus NZ would not like to see a similar situation arise in the citrus industry. Biosecurity is a top priority for Citrus NZ, and takes biosecurity seriously by continuing to undertake work to safeguard the industry from pests and diseases that could have major impacts on citrus growing in New Zealand. Citrus NZ is a signatory to the Government-Industry Agreement for Biosecurity Readiness and Response (GIA), and has a biosecurity levy to enable work to be done to prepare the citrus industry for an incursion of unwanted organisms.

### Acknowledgement:

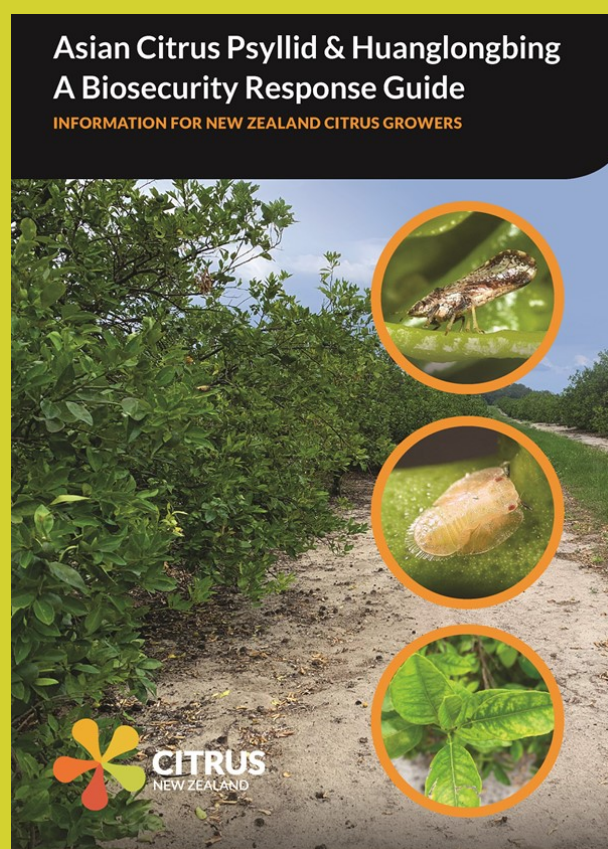
NZ Winegrowers is acknowledged for some of this content.

## New and emerging pests that could impact the New Zealand citrus industry

Citrus NZ is beginning a project to review its priority pests as it is many years since the last assessment was completed. In addition to Citrus NZ's current high-risk pests – Asian citrus psyllid (ACP), Huanglongbing (HLB), and citrus canker - there are new and emerging pests causing increasing concerns in citrus growing regions around the world. Citrus NZ wants to know what these pests and diseases are and to get a greater understanding of them and their potential to impact the New Zealand citrus industry.

## Asian Citrus Psyllid and Huanglongbing : A Biosecurity Response Guide

A Biosecurity Response Guide for citrus growers was recently launched at the shed meetings held in Gisborne, Tauranga and Kerikeri. The Guide covers a range of topics including explaining what happens in a biosecurity response, outlining actions that are undertaken by the MPI Response team, and how your orchard may be affected if it is in the response zone. Printed copies will be available at the upcoming AGM and Conference. The Guide is also available to download from the Citrus NZ website.



**Lisa Wong PhD**

Citrus NZ Biosecurity Manager





## Annual General Meeting

The Citrus NZ Annual General Meeting will be held on **Wednesday 18 September 2024**, commencing at **3:00pm**, and held at the **Farmers Air Showgrounds Event Centre, 20 Main Rd, Makaraka, Gisborne**.

Nominations for the vacant Board position and Notices of motion for consideration at the AGM have now closed.

Two nominations were received for the vacant Board position. Voting papers will be sent to growers by 21 August 2024 and voting will close on 4 September 2024.

The papers for the AGM will be sent out by 28 August 2024.

For further information contact the Executive Manager at [info@citrus.co.nz](mailto:info@citrus.co.nz).

## Review of Citrus NZ Rules Have your say!

You may be aware that the Incorporated Societies Act 2022 comes into effect by 31 March 2026, and we need to update the Citrus NZ Rules to stay compliant. We've used this opportunity to fully revise and modernise the Rules.

The Rules have had a complete makeover to ensure they align with the new Act. It's all about making sure we're up-to-date and running smoothly.

We want your input on the proposed changes. Your feedback is crucial to making sure these rules work for everyone.

If you would like to review the new Constitution before the AGM, please contact the Citrus NZ office at [info@citrus.co.nz](mailto:info@citrus.co.nz) and we'll send you a copy.

## Citrus Commodity Levy Your input matters!

Consultation is important when we're talking about a new commodity levy order. It's all about making sure every grower and stakeholder has their say. Even if there aren't any charges being proposed, it's a great chance to catch any issues or concerns that might slip by unnoticed.

There will also be a presentation at the AGM about the Citrus Commodity Levy, and this is your opportunity to share your thoughts directly.

If you can't make it to the AGM you can still give your feedback to the Executive Manager, any Citrus NZ Board member, or even directly to the Minister.

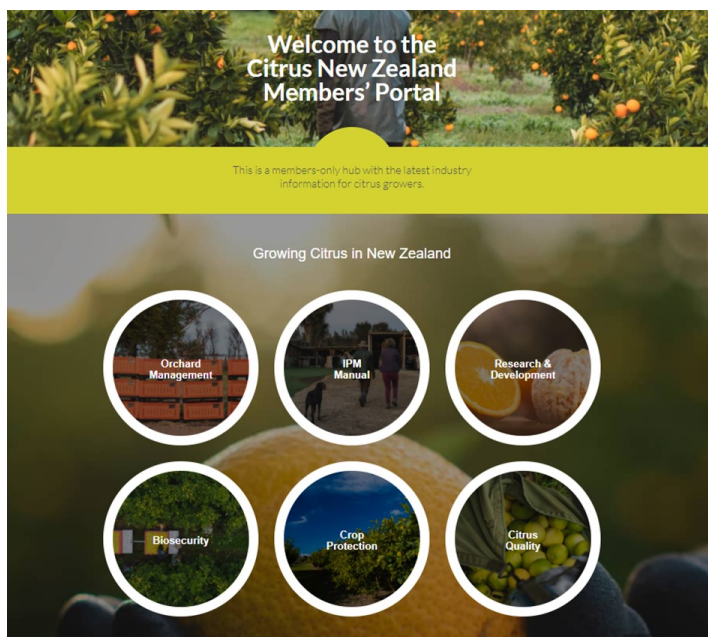
The Citrus NZ Board is looking forward to hearing from you during this consultation phase. Your views are crucial, so let's hear them!



# Resources on the Citrus NZ website

## Accessing the Citrus NZ portal

If you have trouble logging into the members portal please contact the CNZ office. The log in details should be the email address you have registered with Citrus NZ in both fields. We strongly encourage members not to change this.



## Growing Citrus in NZ Guide

The new guide has been developed as a series of modules and is available in hard-copy and online. Each module contains detailed guidance, supported by references and additional reading. These resources can be downloaded from the Citrus NZ website ([www.citrus.co.nz](http://www.citrus.co.nz)) by logging into the member portal.

Hard copies of the Growing Citrus Guide modules are available to growers by contacting the following people:

Northland – Ben Barker, phone: 021 944 162

Bay of Plenty – Keith Pyle, phone: 027 567 5259

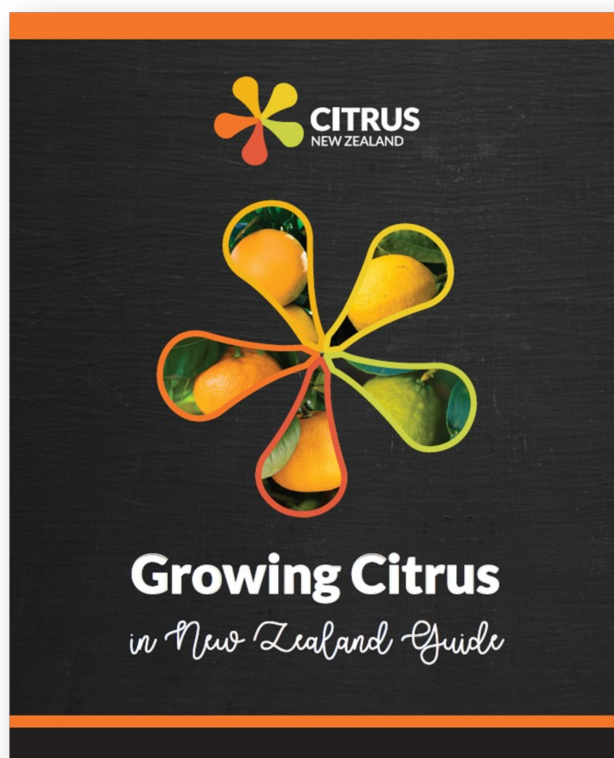
Gisborne – Matt Carter, phone: 021 242 0051

## Citrus Research Catalogue

Over the years, Citrus NZ has funded a considerable amount of research to support NZ citrus growers. Topics range from breeding and rootstock, improving citrus production, understanding and treating pests and diseases, through to annual monitoring of oranges, mandarins and lemons.

The research reports, journal articles and conference proceedings are compiled into a catalogue and is regularly updated with new research reports and information. To explore the full range of topics and publications, log into the member only area of the Citrus NZ website. Go to the Research and Development section to download the catalogue.

Specific reports can be requested from Citrus NZ ([info@citrus.co.nz](mailto:info@citrus.co.nz)), obtained via the DOI link supplied, or requested from your local library. If you require further information, contact Citrus NZ.





# Research Update

## New Varieties Evaluation Project

*Citrus NZ continues to work with Plant & Food Research to evaluate the citrus germplasm block in Kerikeri. These regular evaluations of the selections through the season enable Citrus NZ to look closely at the selections as fruit matures.*

In August 2021 budwood was collected from five of the most promising varieties. These are all late season mandarin selections (June – September window) that are low seeded or seedless, high brix, good holding ability, and good tolerance to pests and diseases. These five selections were propagated onto 5 different rootstocks (C35, Cox mandarin, Sour orange, Benton, Trifoliata).

### Trial plantings in Gisborne

A trial block has been established at Wipere Citrus and the trees were planted in October 2022.

Budwood from seven 'second-tier' selections were collected from Kerikeri in October 2022 and grafted onto the rootstock selections. These were planted into the Gisborne trial block in February this year.

These plantings will continue to be monitored and evaluated over the next 4-5 seasons. While there was some flooding through the block during the February Cyclone Gabrielle event, thankfully the trees were not affected and are growing well.



*New citrus varieties planted in the Gisborne trial block.*





# Research Update

## 2024 Navel supermarket monitoring

During the last ten navel seasons supermarket monitoring has been carried out to evaluate the maturity of 'consumer equivalent' samples of navel oranges on sale at New Zealand supermarkets, measured against the NZCGI navel orange maturity standard ( $\geq 75\%$  of the fruit in each sample  $\text{BrimA} \geq 90$ ).

Citrus NZ is carrying out retail fruit testing of navel oranges for the 2024 season. This programme will sample navels from the Distribution Centres of the three main supermarkets for testing against the maturity standard. This will be carried out for at least 10 weeks and results emailed to orange growers, industry members and retailers. Testing began the week of the 1<sup>st</sup> July.

### Independent testing for pre-harvest fruit maturity.

Citrus NZ sent a letter on the 10<sup>th</sup> June to all Navel orange growers to advise the start of the navel monitoring season and the need to carry out pre-harvest testing to ensure their fruit meets or exceeds  $\text{BrimA} 90$ .

The pre-harvest maturity programme requires the collection of a 32-fruit sample carried out by a recognised independent tester. The juice from each individual fruit is measured for the Brix and Acid content and the  $\text{BrimA}$  of each fruit is then calculated. Clearance

for picking is only given when  $>75\%$  of fruit in the sample have a  $\text{BrimA}$  value of  $>90$  (ie at least 24 of the 32 fruit 'pass').

Citrus NZ would like to encourage all navel orange growers to participate in the programme as it will ensure that NZ consumers have a positive eating experience by lifting the taste quality of NZ navels. This programme has received the support of the citrus marketing companies who will ensure that growers supplying them obtain an independent clearance test before harvest.

The following companies have agreed to implement pre-harvest orchard testing and will ensure all growers supplying them with NZ navel oranges obtain an independent clearance before harvest. The companies below agree to engage one of the nominated testing providers for the final harvest clearance according to the CNZ maturity standard, sampling methodology and use of the correct measuring equipment.

The traffic light system will operate to help assist growers when fruit is close to passing. This will be implemented right from the start of the season and is applicable to all navel varieties. In addition, the blanket clearance procedure will operate again this season. CNZ will advise growers of the date when a blanket clearance can be applied (i.e. the date after which an independent clearance is no longer required).



# Citrus Market Monitoring 2023-24

***This article reports on the size, value and performance of the New Zealand citrus industry for the 2023-24 season, and gives an overview of the industry and details for each segment of the industry.***

Citrus NZ undertakes annual market monitoring of the national citrus crop. Crops monitored annually include Satsuma mandarins, navel oranges, Yen Ben and Meyer lemons, and the 'other' citrus varieties - limes, tangelos, grapefruit, Valencia and non-navel oranges, and non-Satsuma mandarins. The report covers the period from 1 April 2023 to 31 March 2024.

Monitoring data is collected from the 'first point of sale' where fruit is sold (or exported) and is aggregated so that individual marketing companies cannot be identified. The data is standardised across all fruit types including 'other' citrus varieties, and is analysed to work out total production volume, export volume, fruit quality, weighted average price, and domestic industry value. Import volumes obtained from StatNZ are also presented.

The **weighted average price** is calculated from the average wholesale price (\$/kg) supplied by the marketing companies, and takes into account the quantity of fruit, i.e., the larger the volume of fruit, the more 'weight' is attributed to the price of this fruit, and less 'weight' is attributed to the price of smaller volumes of fruit. The weighted average price, therefore, better reflects the price achieved for the majority of the fruit. In this article, comparisons have been made to the previous year.

Data is presented by the regions, **Northland** which includes Matakana, and **Gisborne+other** which includes Gisborne and fruit produced in other regions and marketed by Gisborne based companies.

## Key findings

- ✿ The domestic citrus industry is valued at \$75 million in 2023-24, based on a production volume of almost 29,000 tonnes. There was an overall decrease of \$9 million in total industry value compared to 2022-23, largely due to a decrease in production volume.
- ✿ Total production volumes across all citrus types decreased by 9%.
- ✿ Mandarins and lemons were the main crops in Northland, with the remainder of the national crop produced in the Gisborne+other regions.
- ✿ Fruit quality has remained relatively high for all crops, although overall there was a decrease in the percentage of fruit classed as TAG 1. This can be attributed to severe weather events and on-going wet weather in both growing regions during the main growing and harvest periods causing fruit damage.
- ✿ Meyer, followed by Yen Ben, continue to be the major citrus exports. Small volumes of non-Satsuma mandarins and limes were also exported.
- ✿ Mandarins, oranges, and lemons are generally imported during the New Zealand off-season. Increased volumes of limes and grapefruit (and pomelos) were imported from Viet Nam which has gained market access to New Zealand.
- ✿ On-going monitoring of the citrus industry is valuable and enables trends in production, value and performance to be evaluated from season to season.
- ✿ Overall, prices reflected a market where supply and demand were closely aligned, with increased on-orchard and supply chain costs necessitating increases in wholesale prices.

*Continued next page*



# Citrus Market Monitoring 2023-24

## Overview of All Citrus Varieties

The overall performance of the domestic citrus industry for 2023-24 is summarised in Table 1, with citrus varieties ranked by value.

**Total production volume:** Almost 29,000 tonnes of citrus fruit was produced, with the three main varieties (Satsuma mandarins, Navel oranges, lemons) making up just over 22,000 tonnes.

**Domestic industry value:** The domestic citrus industry is valued at **\$75 million**. The three main varieties represent 78% of overall industry value, with the 'other' citrus varieties accounting for the remaining 22%. Domestically, Satsuma mandarins remain the most valuable crop followed by navel oranges and lemons. Valencia/non-navel oranges were the most valuable crop of the 'other' citrus varieties, closely followed by non-Satsuma mandarins.

	Total production tonne	Total production %	Export volume tonne	Domestic volume tonne	Weighted Av. Price \$/kg	Industry value \$million	Industry value %
Satsuma mandarin	8,106 ↓	28%	1	8,105	\$3.13 ↑	\$25.4	33.8%
Navel oranges	7,070 ↓	25%	2	7,068	\$2.23 ↓	\$15.8	21.1%
Lemons	7,074 ↑	25%	1,967	5,073	\$2.91 ↓	\$14.8	19.7%
Valencia/non-navel	3,098 ↑	11%	0	3,098	\$2.48 ↓	\$7.7	10.2%
Non-Satsuma	2,206 ↓	8%	54	2,152	\$3.38 ↑	\$7.3	9.7%
Lime	380 ↑	1.3%	6	374	\$6.95 ↓	\$2.6	3.5%
Tangelo	340 ↓	1.2%	0	340	\$2.54 ↑	\$0.9	1.1%
Grapefruit	290 ↓	1.0%	0	290	\$2.22 ↑	\$0.6	0.9%
Total	28,564 ↓		2,030	26,500		\$75.0	100%

Note: ↑↓ denotes direction of change from previous season

## Satsuma Mandarin Monitoring

**Total production:** 8,106 tonnes of Satsuma mandarins were produced in the 2023-24 season. This was a 14% decrease on the 2022-23 volume (9,478 tonnes).

**Export volume:** One tonne of Satsuma mandarins was reported to be exported in 2023, mainly to Pacific Island countries.

**Volume by region:** The volume of Satsuma mandarins produced each month is shown in **Figure 1**. Average volume was 1,609 tonnes per month across the main production period from April to August. Of the 8,106 tonnes produced, 60% was produced in Gisborne+other regions, and 40% in Northland.

**Fruit quality:** Fruit quality was reduced as the percentage of fruit classed as TAG 1 decreased to 81% compared to an annual average of 87% across the previous three

seasons. The reduction in TAG 1 fruit, and increased percentages of TAG 2 and TAG 3 fruit, can be attributed to unfavourably wet weather during the main harvest period occurring in both growing regions. As a consequence, the fruit was damaged affecting its external appearance, leading to less fruit being classed as TAG 1.

**Price:** The weighted average price across the season was **\$3.13/kg**, which was 4% (13c/kg) up on 2022-23 (\$3.00/kg). The monthly weighted average price peaked at \$3.82/kg for TAG 1 fruit in September, and dropped to a low of \$2.58/kg in October.

**Domestic industry value:** The domestic Satsuma mandarin crop was valued at **\$28.3 million**. Overall, the 14% decrease in volume, and 4% increase in weighted average price led to a \$2.9 million decrease in the value of the domestic crop.

Continued next page

# Citrus Market Monitoring 2023-24

**Imports:** 6,689 tonnes of mandarins were imported mainly from Australia and USA, primarily during July to October 2022, with smaller volumes in January to March

prior to the start of New Zealand's main production period. A small volume (214 tonnes) was imported from Egypt.

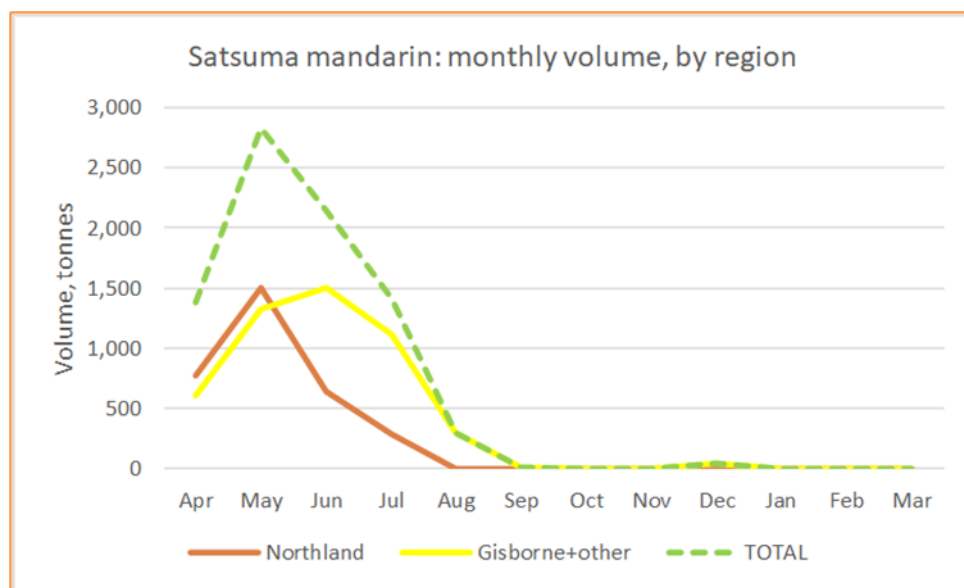


Figure 1. Volume of Satsuma mandarins produced per month, by region, for 2023-24.

## Navel Orange Monitoring

**Total production:** 7,070 tonnes of navel oranges were produced in the 2023-24 season. This was 14% lower than in 2022-23 (8,255 tonnes). The annual volume has decreased for the last four seasons and does not reflect seasonal variation and the biennial bearing nature of navel orange trees.

**Export:** Two tonnes of navel oranges were reported to be exported in August 2023, mainly to Pacific Island countries.

**Volume by region:** The volume of navel oranges produced each month is shown in **Figure 2**. Average monthly volume was 1,004 tonnes across the main production period from July to December when 99% of the national crop was produced. Of the 7,070 tonnes produced, almost 92% was produced in Gisborne+other regions, and 8% in Northland.

**Fruit quality:** Fruit quality had reduced with 63% of fruit classed as TAG 1, and is down from a steady average of

70% across the previous three seasons. Reduction in navel orange quality may also be attributed to the severe and on-going wet weather in both growing regions while the fruit was still developing on the tree and during the main harvest period. As a result, the fruit was damaged, affecting its external appearance. Internal fruit quality was unaffected as testing to the BrimA maturity standard indicated the fruit was mature and ready to harvest.

**Price:** The weighted average price across the season was **\$2.23/kg**, and is relatively unchanged (3c/kg) from 2022-23 (\$2.26/kg). The monthly weighted average price peaked at \$2.75/kg for TAG 1 fruit in June (early season) and \$2.89 in November (late season), fluctuating between \$2.01/kg and \$3.08/kg through the season.

**Domestic industry value:** The domestic navel orange crop was valued at **\$15.8 million**. This is a 15% decrease of \$2.8 million compared to 2022-23, and was largely due to the 14% decrease in volume.

*Continued next page*



# Citrus Market Monitoring 2023-24

**Imports:** 7,631 tonnes of oranges were imported mainly from Australia and USA, with a small volume from Egypt (292 tonnes). This imported volume represented a 21% increase compared to the previous 2022-23 monitoring period. The largest volumes were imported during April

to June (1,111 tonnes/month), immediately prior to the main New Zealand production period. Smaller volumes continue to be imported during the main production period from August to November.

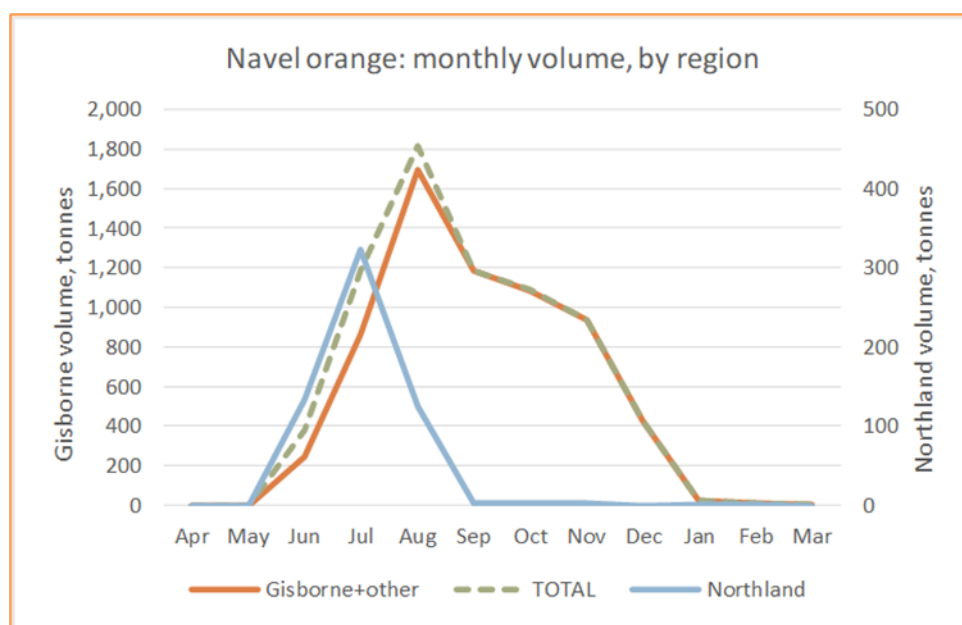


Figure 2. Volume of navel oranges produced per month, by region, for 2023-24.

Note: Different scales for Northland and Gisborne+other regions to show variations between regions.

## Lemon Monitoring

Data is presented individually for Yen Ben and Meyer, and for all lemons.

**Total production:** 7,074 tonnes of lemons were produced in the 2023-24 season, up 15% on 2022-23 (6,130 tonnes). The Northland:Gisborne+other production ratio for all lemons was 21:79. Yen Ben lemons accounted for 38% of the total crop with 2,695 tonnes produced, up 14% on the 2022-23 volume (2,364 tonnes). 38% of the Yen Ben volume was produced in Northland, and 62% produced in Gisborne+other regions. 4,345 tonnes of Meyer lemons were produced, which was 13% up on the 2022-23 volume (3,767 tonnes). All Meyer lemons were grown in the Gisborne+other region.

**Export volumes and markets:** 31% of the lemon crop (1,967 tonnes) was exported. This comprised 28% and 33% of the respective Yen Ben (542 tonnes) and Meyer

(1,425 tonnes) crops. Almost all Yen Ben lemons were exported to Japan, while Meyer lemons were exported to the major markets, Japan, USA and China, with smaller volumes exported to the Pacific Islands. Japan is the largest export market, importing 1,191 tonnes of Yen Ben and Meyer lemons. Export volume is relatively unchanged compared to the previous season.

**Volume by region:** Seasonal changes in production for Yen Ben and Meyer in Northland and Gisborne+other regions are shown in **Figure 3**. Of the 7,074 tonnes of lemons produced in 2023-24, 71% was produced in Gisborne+other regions, and 21% in Northland. The monthly volume peaked at 1,727 tonnes in June, and decreased to 141 tonnes in February 2024. 2,695 tonnes of Yen Bens were produced with production peaking at 558 tonnes in June, dipping to 38 tonnes in September. 4,345 tonnes of Meyer were produced, with production peaking at 1,173 tonnes in June, dropping to 30 tonnes in December 2023 and February 2024.

Continued next page

# Citrus Market Monitoring 2023-24

**Fruit quality:** Fruit quality was similar to the previous season with 71% of fruit classed as TAG 1 compared to 69% for last season, while in previous seasons approximately 80% of fruit was classed as TAG 1. During the 2022-23 season a sizeable quantity of Meyer lemons were oversize and classed as TAG 3. In 2023-24, the lower percentage of TAG 1 fruit is due to external fruit damage from the severe weather events and on-going wet conditions resulting in less fruit being classed as TAG 1.

**Price:** The weighted average price across the season for all lemons was **\$2.91/kg**, and was 17% (58c/kg) less than \$3.49 achieved in 2022-23. Weighted average prices for Yen Ben and Meyer were \$2.76 and \$3.02/kg; a difference of 26c/kg. The monthly weighted average price for TAG 1 Yen Bens ranged from a low of \$1.89/kg in September to a high of \$5.83/kg in February 2024. The monthly weighted average price for TAG 1 Meyer lemons ranged from a low of \$1.60/kg in July to a high of \$6.62/kg in February 2024. The monthly weighted average price follows a similar trend each year, peaking around February and dipping between June to August. Increased prices during the summer months indicates an elevated level of demand compared to the winter months.

**Domestic industry value:** The domestic lemon crop was valued at **\$14.8 million**, and is relatively unchanged from 2022-23. Yen Bens contributed \$5.9 million (40%), and Meyer contributed \$8.8 million (60%) to industry value. The combined effect of a decrease in weighted average price and an increase in volume is largely responsible for an unchanged domestic value.

**Imports:** **1,279 tonnes** of lemons were mainly imported from the USA and Australia. The largest volume was 399 tonnes imported in January 2024. Lemons were not imported during May to October 2022. This is a similar trend to previous years where domestic supply meets local demand during the main New Zealand lemon production season. During the summer months, domestic supply does not meet demand with lemons imported to meet the shortfall.

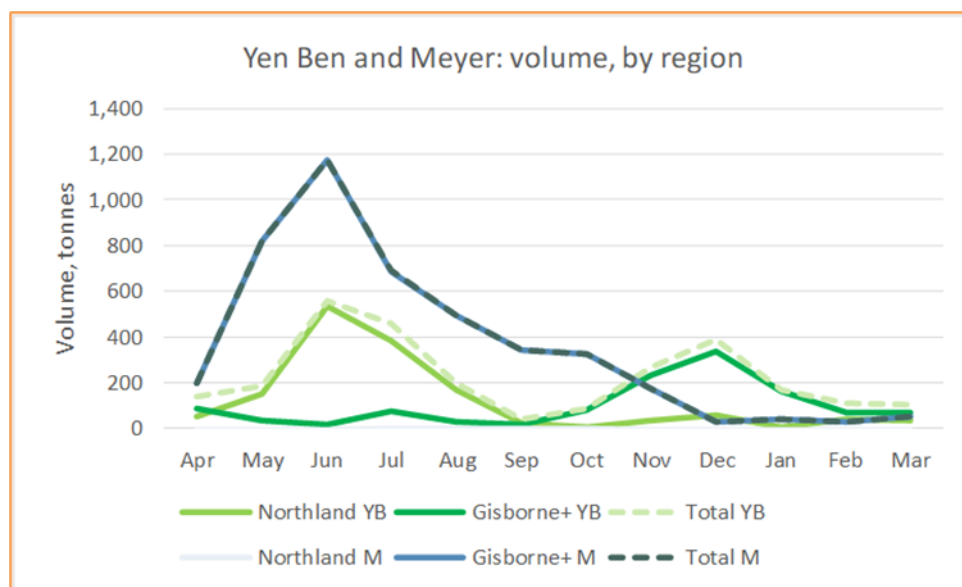


Figure 3. Volume of Yen Ben and Meyer produced per month, by region, for 2023-24.  
Note: Meyer lemons are not grown in Northland, i.e., no volume.

Continued next page



# Citrus Market Monitoring 2023-24

## 'Other' Citrus Varieties Monitoring

**Total production volume:** 6,314 tonnes of 'other' citrus varieties were produced in the 2023-24 season, 14% lower than for 2022-23 (7,384 tonnes). Production volumes for each variety are shown in Figure 4. The largest volumes were Valencia/non-navel oranges (3,098 tonnes), and non-Satsuma mandarins (2,206 tonnes) representing 50% and 34% of the total volume. Limes (374 tonnes, 6%), tangelos (340 tonnes, 5.4%), and grapefruit (290 tonnes, 4.6%) accounted for the remaining 16%.

**Export volume:** Six tonnes of limes, and 54 tonnes of non-Satsuma mandarins were exported. Overall, a combined increase from the 57 tonnes exported in 2022-23.

**Volume by region:** Almost all production was from the Gisborne+other regions.

**Fruit quality:** The percentage of fruit classed as TAG 1 was between 64-69% for tangelos, Valencia/non-navel oranges and non-Satsuma mandarins, and 78% of limes. The external appearance of grapefruit was significantly affected resulting in a sizeable decrease to 49% of the crop classed as TAG 1, down from 68% for the previous season. A large proportion of Valencia oranges are sold to processors, so whilst the fruit could be classed as TAG 1, it may be recorded as TAG 3.

**Average price:** Limes had the highest weighted average price (\$6.95/kg), followed by non-Satsuma mandarins (\$3.38/kg), tangelos (\$2.54/kg), Valencia/non-navel oranges (\$2.48/kg), and grapefruit (\$2.22/kg). The premium price previously enjoyed by lime growers has diminished as a result of imported limes from Viet Nam which have lower import and production costs. A consequence of lower prices may, however, increase overall consumption of New Zealand-grown and imported limes.

**Domestic industry value:** The domestic value of the 'other' citrus varieties was **\$19.0 million**, which was 16% (\$3.5 million) less than for 2022-23. Industry values for each variety are listed in Table 1.

**Imports:** 252 tonnes of limes were imported mainly from Viet Nam (199 tonnes) and USA (43 tonnes), compared to 153 tonnes mainly from USA in the previous season. The first shipments of Vietnamese limes were in November 2022 when 5 tonnes was imported. 750 tonnes of **grapefruit and pomelos** were imported mainly from Viet Nam (538 tonnes) and USA (158 tonnes). In the previous season, 119 tonnes came from USA (88 tonnes) and Australia (31 tonnes). The first shipments of pomelos from Viet Nam arrived in July 2023. Viet Nam gained market access for limes and pomelos in 2022, which accounts for the significant increase in import volumes.

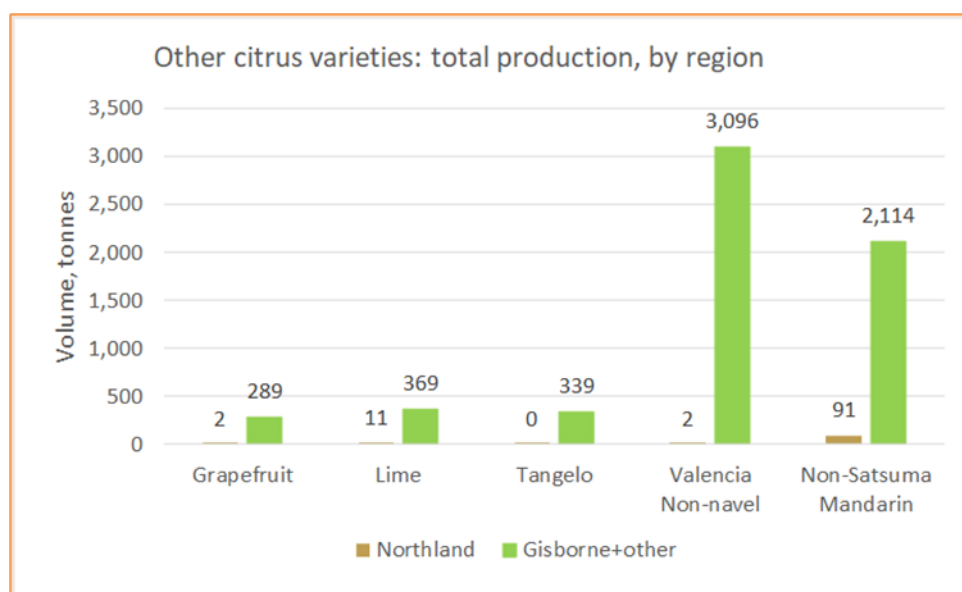


Figure 4. Annual volumes of 'other citrus' varieties by region for 2023-24.

**Acknowledgements:** This work was not possible without the co-operation of FirstFresh, Freshdirect, JRP Citrus Ltd, MG Marketing, T&G Global Limited, Te Mata Exports, Williams Brothers Citrus, and Zeafruit.

## BoP citrus growers field day - 30 August 2024

*Save the date for this grower-only field day event*

Date: Friday 30 August, 10am - 2pm

Location: Nga Puawai Orchard, Limbrandt Way, 388 McLaren Falls Road, Omanawa

RSVP: email [matatipuholdingslimited@gmail.com](mailto:matatipuholdingslimited@gmail.com) or use the 'Bay of Plenty Citrus Growers' Facebook group event to RSVP.

*Attendees are encouraged to bring a plate to share at lunch.*

This will be a nutrition session focussing on:

- understanding soil properties and characteristics that influence nutrition availability
- what macro and micro nutrients are needed by citrus
- case study using our orchard soil analyses and proposed nutrition plans

And a demo of the Trimax Force mulcher on winter prunings (<100mm diameter)

**CHECK THIS OUT AND GET CONNECTED:** A Facebook page for connecting with citrus growers in the Bay of Plenty and surrounding regions, has been set up to share information, facilitate conversations and coordinate extension activities.

Click this link to join: <https://www.facebook.com/groups/410528814724079/>



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# Clark Fletcher Memorial Citrus Bursary

***The Clark Fletcher Bursary is an annual education grant of up to \$5,000.***

It can be awarded to a student studying at a NZ tertiary institution who has a specific interest in the citrus industry, or an applicant involved in research that is likely to contribute to the citrus industry.

In 1977 the citrus and exotics fruit growing industry lost two forward-thinking men: Bruce Clark, General Manager of the Citrus Marketing Authority, and Bill Fletcher, a leading authority on citrus culture with the Ministry of Agriculture and Fisheries. Both died while driving to the 1977 NZ Citrus and Subtropical Council Annual Conference.

Bruce and Bill were deeply involved in developing New Zealand's fruit sector and in nurturing and guiding the industry through its formative years, some of which is outlined in the two obituaries included with this article.

Today the memory of these pioneers lives on in the Clark Fletcher Memorial Citrus Bursary, an award that promotes the industry that they devoted so much time and effort to.

To apply, download the application information from the Citrus NZ website (<https://www.citrus.co.nz/scholarship/>) and follow the instructions. Applications close on 30 November.

## Bill Fletcher Rendered Great Service To Fruit Industry

WITH the tragic death of Bill Fletcher in a motor accident on July 12, on his way to the annual conference of the N.Z. Citrus and Sub-Tropical Council at Kerikeri, the fruit industry has lost a most valued adviser and friend.

Bill was New Zealand's leading authority on citrus and subtropical fruit culture, and as Horticultural Advisory Officer (Citriculture) with the Ministry of Agriculture and Fisheries since 1950, he became willingly and enthusiastically involved in all spheres of the industry's development.

During the turbulent years of the industry's progress, since the end of World War II, Bill was always available for the industry's benefit, and it is sad that from now on, following his passing, the dedicated contribution he made to the industry's progress will be apparent.

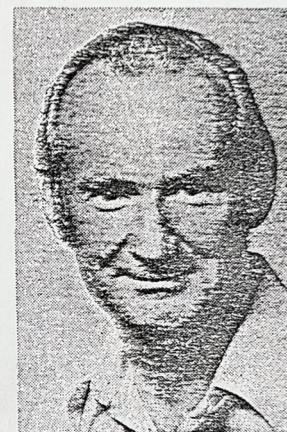
Not only was Bill Fletcher meticulous and full of sincerity in his work with the industry, but he had that wonderful

A tribute by Brian Piper, Te Puna, Tauranga, on behalf of the industry, to the late Bill Fletcher's life and work.

attribute that made him so very human, and full of concern for all people, that conveyed a message of help and friendship to all who knew him, and they loved and respected him.

Bill Fletcher's contributions included helping such organisations as the N.Z. Citrus Council, the N.Z. Citrus Marketing Authority, and the Kiwifruit Export Promotion Committee. He was always available to help these groups, and much of his efforts had particular reference to the collating of statistical information on plantings and production projections.

Bill was virtually at call to assist district Fruitgrower Associations, in talks and demonstrations, and with contributions at field days. This side of his work was frequently on technical and advisory matters concerning fruit culture.



The late Bill Fletcher.

With the Ministry of Agriculture and Fisheries, Bill supervised research and advisory work in citrus and subtropical fruit matters. This included initiation and conducting of trials in the early days of the citrus and kiwifruit industries, and led to many techniques of today becoming commonplace.

Those who knew Bill on a personal basis found him to have the same wonderful feelings and thoughts as he had in his attitude at work. He was a true friend, full of life, and a sincere and genuine help to others.

Without doubt, Bill Fletcher, through his fine efforts, left the world a very much better place to live and work in, and all fruitgrowers, and those folk within the industry who knew him, will be the poorer because of his passing.

The citrus and subtropical fruit industry wishes to place on permanent record its appreciation of the services to mankind well rendered by Bill Fletcher, and to pass on to Wendy Fletcher and family its condolences and blessings in their great loss of a wonderful loving husband and father.

## Bruce Clark Gave Himself To Service Of Citrus Industry

IF ever there was a life dedicated to the interests of a primary industry in New Zealand, Bruce Callander Clark, General Manager of the C.M.A., gave himself to the service of the citrus industry.

Beginning in the Marketing Department, he later elected to carve out his destiny with the N.Z. Citrus Marketing Authority, when he was appointed Ac-

By Stan Conway, Chairman  
N.Z. Citrus Marketing Authority  
1971-75 and member 1955-1975.

countant in 1953. He was promoted to General Manager in 1956, and held this position up until the time of his tragic death. He was anticipating a well-earned retirement in 1978.

To say that he will be "missed" is

the understatement of the year. He was so obviously in touch and familiar with all aspects of the lemon and orange growing industry that his counsel and judgment were invaluable.

With those who worked with him he not only displayed outstanding ability, but also a keen sense of humour. Often, during the difficult days, when the 'chips' were down, he inspired confidence in his staff to persevere, believing that in the ultimate, success would crown the efforts of those who 'stood by.'

Bruce was held in the highest esteem by all who knew him—by the growers whom he served, by the management of Fruit Distributors Ltd, and by those in the Public Service who had any association with the C.M.A. He represented the citrus industry on the Fruit and Vegetable Publicity Council and was re-



The late Bruce Clark.

cently appointed Deputy Chairman. His specialised knowledge, and balanced judgment, his integrity in business deals, his honesty of purpose marked him out as a man of character.

We salute his memory, and extend to his gracious wife Ruth and daughter Victoria our sincere condolences.





## The New Zealand Food Network: A solution to surplus produce

*The New Zealand Food Network (NZFN) bridges the gap between surplus in the business sector and Kiwis facing food insecurity.*

We know that sometimes unexpected events can lead to surplus, such as changing market dynamics, weather patterns or cancelled export orders. NZFN makes it easy for growers to do good with their surplus produce, enabling them to channel it through our nationwide network of 63 Food Hubs, supporting over 655,000 individuals per month. These charities, in turn, spread this food further into their local community through foodbanks, community kitchens, iwi and social supermarkets.

Since its inception in June 2020, NZFN has distributed over 28.6 million kilograms of product, the equivalent of over 68.3 million meals, to Food Hubs across the country. By diverting food from waste, NZFN has also avoided over 43 million kilograms of CO2 equivalent from reaching our atmosphere.

One of our foundation partners, T&G Fresh, has been integral in getting much needed produce into communities in need. In FY23 alone, they supported Kiwis by donating almost 1 million kgs of fresh fruit and vegetables to NZFN.

We are incredibly grateful for the businesses we partner with who regularly donate surplus and gifted product. To get an idea of the kind of volumes we can handle, here are some examples of produce donations we've received recently:

- **Punchbowl PackCo Ltd in Auckland** came onboard May 2024, mid-way through this packing season. They've been donating 20-60 bins of kiwifruit each week, which would have become animal feed. This has amounted to a whopping total of 59 tonnes on top of their Fruit for Schools programme which distributes 20 tonnes to 50 local schools every year.
- **Citipac in Tauranga** has generously donated seven tonnes of surplus lemons and avocados since November 2022 as a solution to avoiding unnecessary waste.
- **Bhana Family Farms in Pukekohe** have donated 31 tonnes of surplus nutritious potatoes and onions

since April 2024.

- **Mercer Mushrooms in Pukekawa** have donated 24 tonnes of mushrooms since November 2023. Wanting to find a cost-effective solution to donating their surplus supply, our partnership has made it easy for them to spread their donations further and make an even greater impact. The Mercer Mushrooms Management team says, *"We are honoured to be able to donate our surplus to the NZ Food Network. Where previously it went to animal feed, our surplus can now contribute to a healthy meal for Kiwis who truly need it. All thanks to the help and dedication of the New Zealand Food Network to make this possible."*

Our bi-annual Food Security Snapshot shows a 42% increase in the demand for food support in 2023 compared to 2022. We expect to see a further increase in this year's results. By donating your surplus to NZFN you'll be helping countless Kiwis get access to nutritious fresh produce.

If you have good, edible surplus produce, NZFN is here to manage every step of ensuring it helps Kiwis doing it tough. We can pick it up, deliver it to those who need it, and return your bins or crates with ease (we have CHEP and LOSCAM accounts) – just get in touch with our Relationship Manager, Sophie Percy, to find out more.

Email: [sophie.percy@nzfoodnetwork.org.nz](mailto:sophie.percy@nzfoodnetwork.org.nz)

Phone: 021 393 662

[www.nzfoodnetwork.org.nz](http://www.nzfoodnetwork.org.nz) | 0800 366 369





# Australian Citrus Congress - Grower Updates

## Exploring advancements in modern technology

**By Richard St George, Orchard Manager , Kainui Pack & Cool Ltd, Kerikeri**

Earlier this year, I had the privilege of attending the Australian Citrus Congress on the Sunshine Coast with Citrus NZ. As someone relatively new to the citrus industry, this experience was particularly exciting for me, and I was eager to see how things are done differently across the Tasman. I was especially interested in exploring advancements in modern technology.

I began my horticulture career five years ago with Kainui Pack and Cool in the Bay of Islands. As an orchard manager, I oversee the daily operations of our kiwifruit and citrus orchards, including tasks such as picking, pruning, managing costs, and budgets, and collaborating with growers to achieve the best results. Throughout my time at Kainui, I've focused on developing orchards from lemons to kiwifruit. With rising costs in orchard labour and materials, I believe it is crucial to stay ahead with the latest technological advancements, which are essential for maximizing productivity and sustainability.

For New Zealand's citrus orchards, integrating modern technology and innovative irrigation systems can revolutionize operations, enhance yields, and reduce costs. My article explores the transformative potential of these advancements and how they can help orchard owners and managers manage labour expenses effectively. High labour costs can outweigh production returns, which is a common concern among my growers. Implementing technology can streamline operations and reduce reliance on manual labour, leading to substantial cost savings. Below is a list of modern advancements available to growers today.

### Advanced Irrigation Systems

Water management is critical for the health and productivity of citrus orchards. Traditional irrigation methods often lead to water wastage and uneven distribution, affecting crop quality and yield. Modern irrigation technologies, such as drip irrigation and automated sprinkler systems, offer precise water delivery directly to the plant roots, optimizing water usage and ensuring uniform growth.

#### Drip Irrigation

Drip irrigation is a highly efficient method that delivers water directly to the base of each plant through a network of tubes and emitters. This system minimizes water evaporation and runoff, allowing for more accurate moisture control. Additionally, integrating soil moisture sensors with drip irrigation systems enables real-time monitoring and adjustments, ensuring plants receive the right amount of water at the right time.

### Automated Sprinkler Systems

Automated sprinkler systems use advanced controllers and weather sensors to adjust watering schedules based on real-time climate conditions. These systems reduce water waste and labour costs associated with manual irrigation. By automating the process, orchard managers can ensure consistent irrigation, leading to healthier plants and higher yields.

*"I was eager to see how things are done differently across the Tasman"*



*Continued next page*



# Australian Citrus Congress - Grower Updates



## Precision Agriculture Technologies

Precision agriculture employs data-driven techniques to optimize farming practices. By leveraging technologies such as GPS, drones, and IoT sensors, orchard owners can make informed decisions that enhance productivity and reduce costs.

### GPS and Mapping

GPS technology allows for accurate mapping and monitoring of orchard layouts. By creating detailed maps, farmers can identify variations in soil quality, plant health, and water distribution. This information enables targeted interventions, such as precise fertilization and irrigation, which improves overall efficiency and crop quality.

### Drones and Imaging

Drones equipped with multispectral cameras provide aerial views of orchards, capturing detailed images that highlight plant health, pest infestations, and water stress. This data helps farmers identify problem areas early, allowing for timely and targeted treatments. Regular drone surveys can also track growth patterns and evaluate the effectiveness of interventions, leading to better crop management.

### IoT Sensors

Internet of Things (IoT) sensors placed throughout orchards collect data on soil moisture, temperature, humidity, and other environmental factors. This real-time data is transmitted to central management systems, enabling remote monitoring and automated adjustments. IoT technology reduces the need for manual checks and

interventions, lowering labour costs and increasing efficiency.

## Mechanised Harvesting

Adopting mechanized harvesting equipment can significantly reduce the time and labour required for picking fruit. Modern harvesters are designed to minimize damage to the fruit and trees, ensuring high-quality produce while lowering labour expenses.

## Automated Sorting and Packaging

Automated sorting and packaging systems can handle large volumes of fruit quickly and accurately. These systems use advanced imaging and robotics to sort fruit by size, colour, and quality, ensuring consistent product standards. Automation reduces the need for manual sorting and packaging, cutting down on labour costs and increasing efficiency.

## Conclusion

I believe there will always be the need for manual labour but it's important that we keep looking for ways to keep ahead of the game in regard to technology.

Integrating advanced irrigation systems, precision agriculture technologies, and automation can transform citrus orchard management in New Zealand. By optimizing water usage, enhancing crop monitoring, and reducing labour costs, these innovations help orchard owners achieve higher yields and better profitability. Embracing these technological advancements is crucial for staying competitive in the modern horticultural landscape.





# Australian Citrus Congress - Grower Updates

## Pre-harvest foliar treatments to support shelf life

By Rowan Wallace, Nga Puawai Orchard

In March 2024, I was fortunate to be one of six citrus folks to be co-sponsored by MG Charitable Trust and Citrus NZ to attend the Australian Citrus Conference in the Sunshine Coast. The conference was an intense 3 days (4 if you attended the study tour) that saw an integrated programme of knowledge extension sessions across biosecurity, production and postharvest/packaging streams. This opportunity is one I highly recommend to others involved within the citrus industry – there are elements that the scale of the Australian industry can drive that our industry in New Zealand does not have the capacity to generate.

One of the key takeaways for me from the conference was the use of foliar fertiliser application to support the shelf life of harvested citrus.

Rubén Pascual, Development Manager at C.Q.MASSÓ and John Chavarria, Nova 2004 Consulting delivered excellent presentations on calcium and boron foliar applications to enhance post-harvest fruit quality. They covered a wide field from the nutritional science behind calcium and boron in citrus through to an update on a recent evaluation of preharvest sprays. I have summarised as best possible below.



## The “sciencey” stuff

Calcium is one of if not the most important nutrients for cell wall strength and general fruit condition. It is also in high demand during leaf flush and flower development. Deficiency can result in leaf and fruit loss and cause cracking of the fruit peel, directly impacting the fruit's market value.

Calcium is also linked to plant metabolism and is a key aid in plant stress reduction. Its role in photosynthetic activity is key to ensuring leaves can generate more energy to sustain the flower and, consequently, future fruit set and development.

Alongside being in high demand, calcium is also the most difficult nutrient to get into citrus fruits as its normal path is via the transpiration (xylem) system meaning it is more likely to enter the vegetative organs than fruits during periods of demand. Leaves have a 75x greater demand than fruit for calcium and are therefore often

### Macronutrient Partitioning 5-yr-old orange trees - cv. Pera/Cravo - Brazil

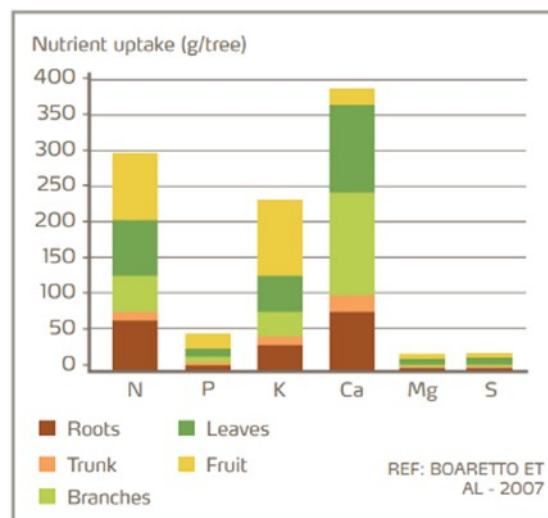


Figure 1 Macronutrient partitioning, (Yara US, n.d.)

where the greatest sink of calcium ends up. As it is not moved via the phloem, this means there is no re-distribution of calcium from leaves to fruit/flowers.

The significant competition within the tree for calcium during flowering, fruit-set and development alongside leaf flushing, creates challenges for flowers and fruit to access calcium, often leading to additional fruitlet and flower shedding. For fruit, the most important period for calcium uptake is during cell-division stage – between early fruit set and end of natural fruit drop.

### Seasonal Macronutrient Accumulation - Fruit & Shoots 10 year old Orange cv. Tarocco / Citrange Troyer, - Italy

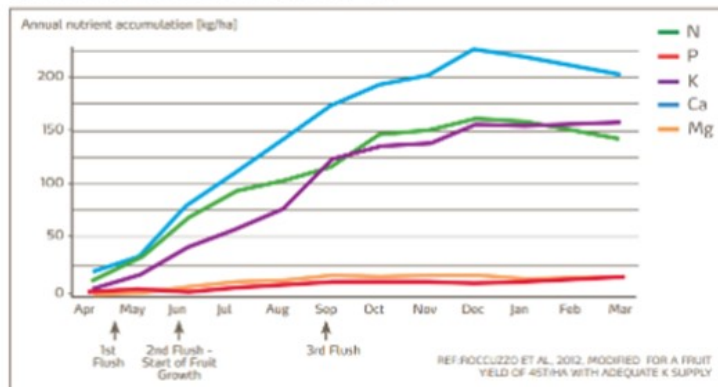


Figure 2 Seasonal nutrient accumulation in citrus (Yara US, n.d.)

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# Australian Citrus Congress - Grower Updates

Factors that impact calcium uptake can include:

- poor root health along with poor soil ecosystems/ environments
- inadequate or excessive soil moisture
- poor calcium availability (CEC) within the soil and mobility (pH)

Increased tree vigour/ flushing post heavy winter prunes, excessive available/ applied nitrogen and / or low crop loads can also impact calcium uptake/ utilisation - there is never just one risk/ contributing factor.

Boron is similarly difficult to get into plants and is an important aide to calcium uptake/ utilisation. Applying these two critical nutrients to your trees in combination therefore has benefits.

## To foliar or not foliar?

Relying on the unpredictability of available calcium from the soil can lead to slowed growth during key growth periods and poor fruit quality. Foliar applications can be a convenient way to apply additional nutrients to plants, supplementing those taken up from the soil. They are frequently used during peak demand periods and at critical growth stages, e.g. fruit development/ enlargement.

Balancing this is that there are limits to the amount of nutrient that can be applied in foliar applications. It is not normally possible to meet the complete demand for macronutrients, i.e. those nutrients taken up in large quantities such as nitrogen and potassium, through foliar applications without burning foliage. On the other hand, plant demands for the micronutrients or trace elements, which are taken up by plants in small amounts, can often be met through foliar applications if applied at the right time in the right ways.

Foliar applications can also provide quick responses where a nutrient deficiency occurs. They can also reduce leaching, significantly benefit young trees (due to small root zones) and possibly reduce total fertiliser application rates (if uptake is effective) than traditional fertiliser broadcasting. Foliars can also alleviate having too much calcium in your soil structure which can make soil too alkaline and bind up other essential nutrients, making them unavailable to the tree.

Using foliar applications for high demand, slow uptake minerals such as calcium and boron as highlighted above are worthy of consideration. Applying them beyond the traditional fruit set/ development into the fruit enlargement stage is one to consider alongside your current/ future fertiliser plans.

## When/what to apply?

Just like capital fertiliser applications, timing of foliar applications are vital to match the phenological stage that the tree is in alongside climatic conditions. Traditional foliar applications (2 to 4 sprays) of calcium and boron are normally conducted pre-flower and/ or during cell division/ early cell expansion are critical. During these stages, most citrus leaves (and fruitlets) are at their most absorbent for foliar applications, especially flushing leaves which are at their highest density of stomata and least amount of wax.

An evaluation of foliar applications of calcium and boron (Osmoshield and Calformate) during fruit enlargement on Spanish nadorcott mandarins showed:

- reduced fruit weight loss during cold storage (up to 60 days at 1°)
- increased firmness
- reduced fruit expiration
- better acidity and maturity ratios
- reduced ethylene production
- reduced amount of chilling injuries.

As a result of this evaluation, Rubén and John now recommend spray applications for key phenological stages as follows:

- **Petal fall to the end of natural fruit drop** - 1 or 2 applications. This is the most critical timing for calcium sprays to build up calcium in developing fruitlets for strong cell walls.
- **Early Summer/ fruit development (mid Dec – Mid Feb)** - 1 or 2 applications.
- This is the main spray/s to reduce albedo breakdown and to build up fruit strength at harvest.
- **From initial colour break to harvest:** 1-2 applications. Consider using calcium formate which has a higher uptake for late season applications than traditional calcium nitrates. It also does not impact fruit colouration.

*Continued next page*



# Australian Citrus Congress - Grower Updates

We suggest that you obtain advice from your agronomist or nutrient specialist on the specific composition of your spray applications. John provides some useful information in his presentation (Chavarria, 2024).

We will be trying out through (non-structured experiments) some of these recommendations as they apply to our lemon crop for the coming season.

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**EDITORIAL NOTE: Citrus NZ has produced a guide on citrus nutrition titled 'Citrus Nutrition Protocols'. This is available to download via the Citrus NZ website Member's portal.**

## Voluntary Best Practice Fact Sheet

Following the 2023 Annual General Meeting, the Citrus Voluntary Best Practice Fact Sheet is available on the website, and can be found under the Citrus Quality & Marketing section.

The Fact Sheet highlights 'best practice' attributes for contracting between Growers and Marketers in the New Zealand citrus industry.

Check it out [here](#).

## A Lighter Touch Newsletter

*Have you signed up for the A Lighter Touch newsletter yet?*

Keep up to date with latest news from this programme focused on supporting plant food producers to move from reliance on agrichemical crop protection to an agroecological approach – sustainable farming that works with nature.

Sign up for [here](#) for In Touch, the monthly newsletter of the A Lighter Touch programme.



# News from the A Lighter Touch Programme

## New control options for mealybugs

A newly approved A Lighter Touch project is seeking new control options for mealybugs in persimmons and will also benefit four other A Lighter Touch product groups whose crops have the same pest problem, including Citrus New Zealand. The project with the New Zealand Persimmon Industry Council began in autumn with trials establishing the residue profiles of five insecticides in three orchards in Gisborne, Matakana and Northland. Longtailed mealybug and citrophilous mealybug are important pests in persimmon. These insects and the sooty mould associated with them reduce plant vigour and contaminate fruit. They are also a common pest for other crops, including passionfruit, grapes, citrus and summerfruit. Read more about this project on the A Lighter Touch website.

<https://a-lighter-touch.co.nz/our-projects/mealybug-control-in-persimmons/>

## Resistance management strategies updated

Managing resistance risk in agrichemicals is key to retaining their ongoing use, and an upcoming A Lighter Touch educational forum will share the latest changes to resistance management strategies. As part of its work in pesticide resistance management, A Lighter Touch has funded and overseen the updating of fungicide, herbicide and insecticide resistance management strategies, hosted on the New Zealand Plant Protection Society website. Some strategies have not been updated for more than 10 years, with all at least five years out of date.

A Lighter Touch will host a webinar in September to provide an overview of the major changes to the strategies, what that means in terms of grower practice and how the changes relate to international best practice strategies, driven by the global Resistance Action Committees. Details will be shared on the ALT Events webpage.

<https://a-lighter-touch.co.nz/category/events/>

## New biodiversity podcasts

Using biodiversity to help with management of pests, diseases and weeds on farm is explored in two new episodes of the A Lighter Touch podcast, out now. The podcast draws on knowledge shared at the ALT-hosted educational forum focusing on Biodiversity in a cropping farm environment, and featuring presentations describing both the science behind biodiverse planting, and practical experiences from those who've introduced it on their farms. You can find a link to the two-part series on the biodiversity project webpage on the A Lighter Touch website, and it's available on Spotify, Apple Music and other podcast platforms via Acast.

<https://a-lighter-touch.co.nz/our-projects/biodiverse-planting/>

## Increasing orchard biodiversity

Insect abundance increasing by two-thirds and the mower staying in the shed are two of the benefits seen in the first year of a Summerfruit New Zealand-A Lighter Touch understory planting project. The project aims to establish understory planting in summerfruit orchards in Central Otago and Hawkes Bay to enhance biodiversity. It is also looking at associated co-benefits, including weed management, improved *Botrytis* disease control through covering bare ground, and improvements to soil health. The project is leveraging knowledge gained from the A Lighter Touch Biodiverse planting in perennial crops project, where beneficial planting was demonstrated in two Gisborne citrus orchards to enhance biodiversity and natural predator populations. More details of the summerfruit understory project and an article in The Orchardist about the first year findings are available on the project webpage.

<https://a-lighter-touch.co.nz/our-projects/botrytis-2/>

The A Lighter Touch e-newsletter is published monthly and contains news and updates of projects as well as links to relevant resources, articles and industry events. To subscribe to the newsletter email: [news@a-lighter-touch.co.nz](mailto:news@a-lighter-touch.co.nz).





**CITRUS**  
NEW ZEALAND

## 5+ A Day Citrus Promotional Activity Interim Report

### The Results

1.92m  
Potential  
Reach

265  
No. Times  
Ad Played

39.7%  
Bonus  
Delivered



### Television Advertising:

The 5+ A Day citrus commercial ran throughout May on Warner Bros. Discovery channels including TV3, Sky Open, Eden, HGTV, Rush, Living TLC, Discovery and Turbo. This ad, as well as the 5+ A Day autumn produce ad ran across our @5adaynz platforms and United Fresh LinkedIn page.

### Infographics:

The start of each season is announced with infographics in static posts on 5+ A Day social media platforms.

### Recipes:

Check out the many recipes on the 5+ A Day website [here](#).

Use **Citrus** in the search bar and you'll be pleasantly surprised at what you find.



# Compulsory Citrus levies reminder

Levies **must** be paid on all citrus. If you directly sell fresh and or processed citrus you must pay Citrus NZ a levy. It is a legal requirement that the levy be paid. Citrus NZ can send an invoice if you contact the CNZ office to declare your total volume.

This link explains the levies and has a payment calculator that can be downloaded:

[www.citrus.co.nz/membership-and-funding/](http://www.citrus.co.nz/membership-and-funding/)

## Citrus Levy Rates

**1c/kg**

Fresh mandarins, oranges, tangelos, grapefruit, lemons and limes

**0.3c/kg**

All citrus intended for processing

**0.5c/kg**

Biosecurity levy on all fresh and processed citrus – from 01 April 2020

## Compliance requirements

To comply with the citrus levy and auditing and payment reconciliation requirements, the person collecting and submitting the levy must keep records of the:



Name of the grower and purchaser



Quantity of citrus purchased and sold for sale or export



Amount of levy collected and paid to CNZ

Collection agents must also provide a copy to CNZ to determine the amount payable. Remember to keep these records for at least two years.



**CITRUS**  
NEW ZEALAND

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