


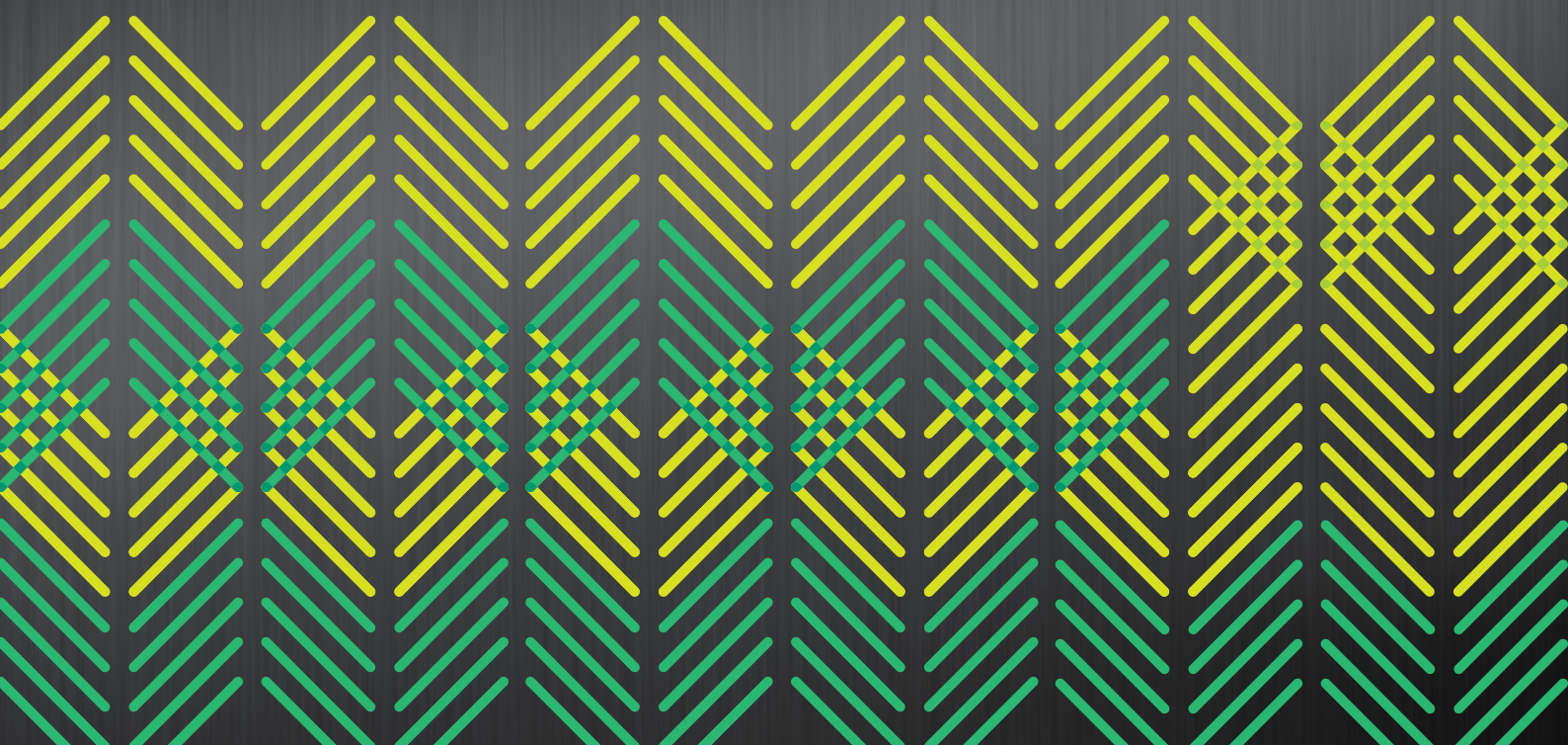


Innovation through Collaboration

 New Zealand Wine Centre | Te Pokapū Wāina o Aotearoa

 MARLBOROUGH RESEARCH CENTRE | Te Rito Hiranga o Wairau

Annual Report 2022 / 2023



**The whole is greater
than the sum of the
parts, so the
saying goes.**

**But the whole is even
greater when the sum of
those parts is bound
together in a spirit of
collaboration, inspiration
and innovation.**

**It's what makes all the
difference in what is fast
becoming NZ's leading
region for the agritech sector,
Marlborough.**

contents

- 2 Organisational Structure
- 3 Personnel + Tenants
- 4 Chief Executive Overview
- 6 Experimental Vineyard Facility at
New Zealand Wine Centre
Te Pokapū Wāina o Aotearoa
- 8 Edwin Pitts retires from MRC Board
- 10 Clive Jones, new MRC Board Member
- 11 Our Year at a Glance
- 18 MRC Digital Snapshot
- 19 Research & Development Reports
- 31 Financial Reports



organisational structure

personnel + tenants

as at 30 June 2023

MRC TRUSTEES

Bernie Rowe	LL.B	Chair
Ivan Sutherland	VFM, ANZIV	Trustee
Clive Jones	BSc, BSc	Trustee

MRC ADVISORY COMMITTEE

Ivan Sutherland	VFM, ANZIV	Interim Chair
James Morton	BSc (Hons), MSc, PhD	Lincoln University
Warwick Lissaman	BCom, PG Dip Com	Pastoral Representative
Andrew Naylor	MAppSc (Vit)	Pernod Ricard Winemakers
Mark Peters	FCA	Marlborough District Councillor
Roger Robson-Williams	BSc (Hons), PhD, PG Dip Leadership	Plant & Food Research
Alan Johnson	Dip Mgt and Biosecurity	MDC Council Appointee

MRC

Gerald Hope		Chief Executive
Susan Foster		Operations and Account Manager
John Patterson	BCA	Associate MRC

BUDGE STREET CAMPUS TENANTS



www.bri.co.nz



www.lallemandwine.com/en/new-zealand



www.nmit.ac.nz



www.nzwine.com

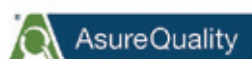


www.plantandfood.com/en-nz



www.marlboroughwinenz.com

GROVETOWN PARK CAMPUS TENANTS



www.asurequality.com



www.buckforestry.com



www.dnaitech.com



piertwo.co.nz



www.hill-laboratories.com



www.marlboroughtourcompany.co.nz



www.mpi.govt.nz/food-business



www.mpi.govt.nz/fishing-aquaculture/fisheries-management



www.fishandgame.org.nz/nelson



www.enartis.com/en-au/

chief executive overview

Firstly, I would like to express my personal appreciation and gratitude to retired Trustee, Edwin Pitts. Over the past several decades, Ed has served the MRC and the Marlborough region loyally and diligently.



Ed's reflections on his time with the MRC, which you will find later in this report; are well worth reading. We are delighted to welcome 30-year winemaking veteran and general manager of Nautilus Estate, Clive Jones, to the board.

The past year has seen the establishment of the New Zealand Wine Centre - Te Pokapū Wāina o Aotearoa (NZWC) with a refreshed brand that encapsulates the

activities undertaken at the Budge Street Campus. More importantly, it signals the potential alliances and partnerships that will develop in the future. What was once a bold concept conceived five years ago is now a reality. The NZWC with its broad research, innovation and education capabilities, will respond to a changing climate in a measured, methodical scientific manner.

More than at any time since MRC opened its doors to locally based research capability there is the need for increased science and innovation delivering improved technical proficiency to support the region's sustainable future. MRC must continue to inform primary producers through technology transfer and information. By doing so

key exporters will remain well informed and linked with local science providers such as Plant and Food Research, Sustainable Winegrowing NZ, and Bragato Research Institute.

As mandated by the signatories to the Trust Deed when launching MRC in 1984 – our goal remains constant: to meet the needs of all primary producers within the region while utilising relevant relationships and connections both within New Zealand and through international alliances. It is pleasing to report that this continues to be a core activity facilitated through our local science providers.

Marlborough's weather system has noticeably changed over the past decade delivering shorter winters, sporadic heavy rainfall events and prolonged dry periods as El Nino settles in. These shifts require a wiser, better-informed use of our region's natural resources, specifically our diverse soils and available water.

Through the MRC Advisory Committee, annual research applications are reviewed and prioritised with recommendations referred to the MRC Trust board for final consideration and approval. The schedule of projects reflects the current and future needs of industry and researchers to ensure Marlborough's economy remains strong and future-focused.

The research fund allocation for the past year represents a broader range of collaborative research partnerships. This realignment with the wider region in conjunction with primary producers is the direction the board considers



Wine research centre reveals 'experimental future vineyard' plans

Morgane Solignac · 16:43, Sep 29 2022



Then Prime Minister The Rt Hon Jacinda Ardern with Ivan Sutherland and Bernie Rowe at the opening of the New Zealand Wine Centre - Te Pokapū Wāina o Aotearoa

necessary. The primary production sector across the region has moved significantly to build a natural relationship with the environment they are accessing resources from. Just as adaptation to climate change is now a normal element in annual and long-term planning, MRC is connecting with the various research paths that take us forward in harmony with nature to mitigate what changes are ahead.

One of the highlights of the year is the 700m² Experimental Future Vineyard (EFV) project. This represents the final stage of an eight-million-dollar facilities expansion that began in 2021. The EFV emerged from rigorous technical, engineering, and architectural design to the stage where building consent was issued, and construction began.

The building contract was awarded to Scott Construction, the main structure to CRAVO Equipment Ltd (Canada) the four-tonne lift mobile crane to McCallum Crane Ltd, and the removable sleeves and four-tonne planter pots were commissioned to Infrapipe Ltd. Scheduled for completion April 2024 the EFV will add a major tool to researching plant growth and performance under controlled conditions, reflecting changing weather and climate. Plant and Food Research will be the Lessee partnering with NMIT in a shared working environment.

This will complete the four-stage investment programme equally funded by MRC Trust and Kānoa (formally Provincial Growth Fund) administered by the Ministry for Business, Innovation & Employment.

Financially, MRCT has performed well across operational centres at Budge Street - New Zealand Wine Centre Campus, Grovetown Park Campus, and Rowley Vineyard in an often volatile economic environment of rising costs.

The small yet dedicated team of Susan Foster – Operations and Account Manager, supported by Associate John Patterson has underpinned prudent financial oversight during the construction of new multi-million-dollar facilities.

Building at this scale over several years, amidst lockdown disruptions, logistical difficulties, and material price increases, presented challenges for a small organisation. However, it is satisfying to report that the outcomes achieved have been on budget. This success is due to the experience and diligence of both the MRC Trust Board and the Project Management Group of APL - Property, Jerram Tocker Barron - Architects, Brendon Blackmur Consulting Ltd, Engenium Engineering, Evan Jones Construction, Scott Construction Ltd and the small in-house management team.

The following sections provide an audited financial report for MRC, highlights from the past year and research reports from our contracted science providers.

Gerald Hope
Chief Executive

cutting edge facility

at New Zealand Wine Centre to enhance Grapevine Research

The new Experimental Future Vineyard facility, based at the New Zealand Wine Centre - Te Pokapū Wāina o Aotearoa, will provide a unique resource for research and innovation into wine grape production to support our wine industry.

The new facility, housed in a 700m² shelter, will enable researchers to control the vineyard environment and build knowledge to ensure the wine sector is prepared for future challenges. It will foster innovation to enhance productivity, climate adaptation, and resilience while promoting healthier soils and biodiverse ecosystems.

Scientists will have the capability to conduct research within the vine and beneath the soil, granting them control over various environmental factors such as soil type, temperature, and water availability.

Plant & Food Research (PFR) will manage the facility and develop research programmes in collaboration with the Marlborough Research Centre (MRC), national and local government and the New Zealand wine industry. Additionally, it will provide student opportunities through the Nelson Marlborough Institute of Technology (NMIT) Te Pūkenga.

Highlighting the unique advantage of the facility, Dr Damian Martin, Science Group Leader Viticulture and Oenology at Plant & Food Research says, “We have world-leading research in New Zealand and understand what happens to the vines above ground. This facility will help us understand what happens to the vines below ground.”

Damian adds, “We recognise that climate change will introduce new challenges to wine production in New Zealand, with warmer days and an increased risk of insect pests and diseases establishing here. Consumer expectations are also evolving, with a stronger emphasis on sustainability credentials. Understanding how best to grow excellent grapes that allow winemakers to meet their environmental, financial and societal requirements will ensure our wine sector can continue to grow.”

This initiative follows an agreement between MRC, PFR and NMIT to develop an Experimental Future Vineyard adjoining the new Wine Centre, which was announced by then Prime Minister Rt. Hon Jacinda Ardern during the opening of The New Zealand Wine Centre.

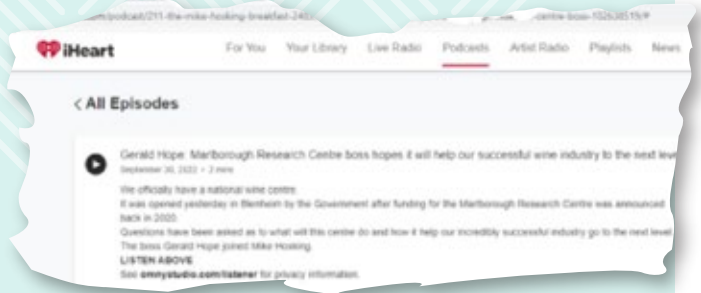


A sketch of the Experimental Future Vineyard, scheduled for completion early 2024.

Media Coverage...



“It’s fantastic to see the plan for the Experimental Future Vineyard, which I know will be a huge asset to our winemaking industry, and help foster cutting-edge Kiwi innovation,” Nash said. “The Wine Centre and Experimental Future Vineyard confirm Marlborough’s place as the pre-eminent location for research and innovation for New Zealand’s wine industry, attracting local and international talent,” then Regional Development Minister Stuart Nash said.



edwin pitts

innovation & community dedication

a lifelong commitment to the Primary Sector

Founding Marlborough Research Centre Trustee and outgoing chair of the Marlborough Research Centre Advisory Committee, Edwin Pitts, reflects on his working life driven by causes for the economic betterment of society.

Ed was a high-country farmer and olive grower. Farming merino sheep and Hereford cattle on Mt Gladstone, the 80-minute ride to town involving at least 60km of winding hard shingle road, wore out at least three cars for community causes, his wife would argue.



Ed's curiosity and passion for agriculture and community engagement ignited his involvement in

various agricultural organisations at a young age. In the early 80's, together with other big thinkers, he became involved in forming the MRC. "We needed a physical centre to keep scientists interested in the province and give them a place to work from." A founding member of the Marlborough Research Centre, Ed's commitment to the MRC spans nearly 40 years.

"The early work of MRC primarily focused on soil science, sulphur fertiliser research, cherry production and irrigation research," says Ed. "I don't think the province really realises what contribution was made with the irrigation research. I think the feeling was you had to flood the grapes with lots of water. It was drip irrigation that created efficient water usage."

Ed's dedication extended beyond the MRC. He served as a member of the High-Country Committee for 17 years and was involved with the Tussock Grasslands and Mountain Land Institute. Ed also led Marlborough Federated Farmers during the challenging years of the 1980s, marked by economic reforms.

In another science interest, Ed became a member of the Lincoln University Council.

"We had one bad weed called hieracium (hawkweed), a weed that was taking over high country and hill country pastures. The hills were losing their pastoral values, so I helped set up the hieracium control trust which ran until 2009 researching and introducing biological control agents," Ed says.



From high country to olive oil

Moving to the Waihopai River in the Wairau Valley Ed ventured into olive and lavender farming. "That was a big change from animal farming to horticulture." Ed became involved on the local committee and later chaired the industry.

"Three families imported an olive press gathering shareholders around us. That olive press is still in use today. The first year of Blumenfeld olive oil we sent a blend off to the largest olive oil competition



of its time in Los Angeles and won the international award. But we didn't have effective marketing channels set up to take advantage of that situation. It was an industry that came under real pressure for suitable land from the wine industry in Marlborough."

Ed has always enjoyed startups. "I am not counting myself particularly an innovator but being very supportive of ideas that I could see were important for the future of the country."

Leading the largest school of education

His four children all received distance education until the age of 10. "My wife taught our children for 16 years during which "Tomorrows Schools" came along and granted parents a governing role in their children's education in 1989, at which time I put my name in the hat for the correspondence school board of trustees." A year later Ed became the chair, serving for nearly 12 years.

With 22,000 students, it was NZ's largest school at that time, governed by parents like any other school. "But in 2001, education minister Trevor Mallard decided he didn't want a bunch of parents governing the largest school and so he replaced us with one parent and a student representative and government appointees."

In other educational roles, Ed became the foundation chair of Marlborough REAP (Rural Education Activities Programme) and a member of District Employment Training and Advisory Committee (DETAC). The latter became the training centre today known as NMIT Te Pūkenga, which shares the Budge Street campus with the Marlborough Research Centre.

"You give what you think you can to help the country."

Conservation

Ed's involvement in community endeavours didn't stop there. He served on the Nelson Marlborough Conservation Board, navigating the balance between conservation and production. Ed farmed to the principles of regenerative farming, recognising the importance of sustainable land management.

Lucky but apprehensive

How did Ed become involved in so many pivotal community leadership roles? Firstly, Ed attributes his community success to the support of his wife Lois, who kept the farm "ticking" in his absence. Secondly, trusted, supportive, and with an inquiring mind, Ed says the university of life had been his training until, in his 30s, he became a KELLOGG leadership scholar on the first intake (1979).

"It was a real challenge. Most of the other people were pretty bright and university graduates. One of the best aspects of the course was meeting national leaders in industry and politics and invaluable training in listening and critical analysis," Ed says.

Now at 81, Ed's retirement hasn't slowed him down. He remains actively engaged in the Picton Dawn Chorus, contributing to conservation efforts in the region. Reflecting on his engagement with the MRC, Ed strongly believes MRC will remain indispensable.

"Marlborough will always be rooted in primary production, and I absolutely believe in MRC's necessity to provide research in the primary sector."

clive jones

veteran winemaker and a valuable addition to the MRCT Board

We are delighted to introduce new member Clive Jones to the Marlborough Research Centre Trust Board (MRCT). With an impressive three decades of experience in winemaking, Clive, General Manager and winemaker at Nautilus Estate, is a passionate advocate of innovation, and research. His wealth of knowledge and fresh insights make him a valuable addition to our board.

Clive's dedication to the wine industry extends to governance roles at both national and regional levels, including the Marlborough Winegrowers board and his current position as Chair of New Zealand Wine Growers.

Clive says the Marlborough Research Centre (MRC) is an important regional initiative. "We have an exciting major construction project ahead of us with the Experimental Future Vineyard. It's a major project to benefit the wine industry. I am looking forward to seeing the initiative through to successful completion."

Clive is no stranger to science, having initially trained as an industrial chemist before pursuing a second degree in applied wine science. "I come from a basic science background. Having awareness in the research field makes sense for this role."

Clive is looking forward to bringing his awareness of the broader wine sector to the table and continuing the collaborative relationships that MRC has fostered between NMIT, Plant & Food, Wine Marlborough, New Zealand Winegrowers and Bragato Research Institute. MRC has been integral in creating a real hub for wine industry collaboration and innovation, linking business, research and education.

"While grape growing and wine making is a dominant player in our region, exploring links between the wine



industry and other primary sectors is an attraction for the role," says Clive. "MRC is not just about wine but fosters research with the broad primary production sector for the benefit of the Marlborough region." Clive says this is a learning opportunity for him to see what activities go on outside of wine.

"We can bring together locally based organisation with common links in different sectors, presenting opportunity. The grape marc research is an example. We have the opportunity to turn grape marc waste into a value stream, providing a solution for multiple sectors."

You can read Clive's full bio [here](https://www.mrc.org.nz/mrc-trustees) (www.mrc.org.nz/mrc-trustees)

our year at a glance



Exploring Hemp Opportunities

The inaugural Hemp workshop in July explored opportunities for the Marlborough Region and how Marlborough can become a bigger part of this new industry. The workshop was part of a nationwide tour organised by the New Zealand Hemp Industry Association, supported by AGMARDT and MRC.

NZ Wine Centre Development

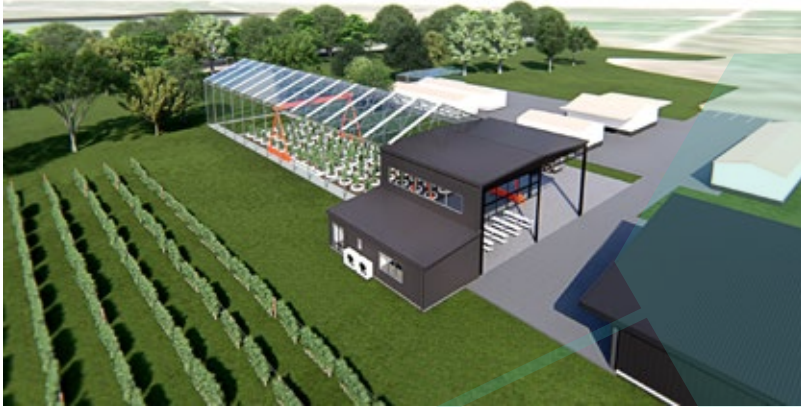
The Marlborough Research Centre (MRC) led the development of the NZ Wine Centre with key partners NMIT Te Pūkenga, MBIE via Kānoa, Plant & Food Research, Wine Marlborough, Marlborough District Council, and New Zealand Winegrowers through the Bragato Research Institute (BRI) and Sustainable Winegrowing NZ.



Te Pokapū Wāina o Aotearoa was opened in September by then Prime Minister Rt. Hon Jacinda Ardern.



Prime Minister Rt. Hon Jacinda Ardern unveils the plaque at the official opening of the New Zealand Wine Centre - Te Pokapū Wāina o Aotearoa in Marlborough.



Future-Focused Vineyard Announcement

A new experimental future-focused vineyard at the NZ Wine Centre will provide a unique resource for research to help enhance the supply of quality grapes for New Zealand's wine sector.

Marlborough Research Centre and Plant & Food Research will build a future-focused Experimental Future Vineyard.

Recognition at Marlborough Wine Show

We had the pleasure of awarding two trophies to deserving Marlborough wineries at the 2022 Marlborough Wine Show Celebration Long Lunch.

Giesen Wines' Single Vineyard Clayvin Chardonnay 2018 took the trophies for both the MRC Champion Chardonnay 2019 & Older and Vit Management Ltd Best Organic Wine.

Receiving the MRC Champion Chardonnay Current Vintage was the Rapaura Springs Single Vineyard Bouldevines Vineyard Chardonnay 2020.



MRC CE Gerald Hope hands the MRC Champion Chardonnay Current Vintage trophy to a happy Jeremy Tod from Giesen Wines.



Michael Bann (left) and Matt Fox (right) from Rapaura Springs receive the MRC Champion Chardonnay Trophy from CE Gerald Hope (centre), Marlborough Research Centre.

Enhancing Earthquake Resilience

In December, GNS Science hosted ‘Enhancing Earthquake Resilience in the Wine Industry’ at MRC; an MPI-funded project exploring the impacts, implications, and opportunities to enhance resilience for winemakers and grape growers in Aotearoa New Zealand.



Biodiversity and Conservation Showcase

Marlborough has active groups working in the pursuit of biodiversity, restoration and conservation. The biannual meeting hosted at MRC showcased the work of conservation groups that are restoring biodiversity across Marlborough.



Lallemand's NZ Office

Family-owned French-Canadian global manufacturer, Lallemand established its NZ office at the Marlborough Research Centre. The company specialises in the development and production of yeast and bacteria used in the fermentation of foods and beverages.

Australian Eucalypt Growers Visit

A historical first was had in March. A group of Australian durable Eucalypt growers and processors visited Canterbury and Marlborough to look at a range of NZ Dryland Forests Innovation (NZDFI) durable eucalypt seed orchards and trial sites as part of their Eucalypt Forum.

Australian Eucalypt growers overlook the NZDFI E. globosidea breeding trial located on the Avery Bonavaree property in Grassmere, Saltworks in the background.





Durable Eucalypt Timber for NZ Wine Centre

Australian Eucalypt Grower Chris Swadling, owner of Ironwood Australia is a leading supplier of reclaimed, recycled and architectural Australian hardwood timbers.

Chris supplied the timber (*Eucalyptus pilularis*) for the stunning soffits of the New Zealand Wine Centre.

Paul Millen (NZDFI) and Chris Swadling (Ironwood Australia) stand under the Eucalypt-clad soffit of the NZ Wine Centre.



Welcoming Enartis

We welcomed new business Enartis to Grovetown Park. The company helps wineries stay on top of present and future challenges with winemaking products, improving winery processes, and by providing comprehensive technical support.



Irene Tozzi from Enartis

Leading in Agritech

Marlborough is on a journey to become Australasia's leading agritech region. The headline event for Marlborough Innovation Day was held at the Marlborough Research Centre.



Pink Ribbon Breakfast

The campus came together for a Pink Ribbon Morning Tea organised by the BRI and SWNZ teams to raise awareness and funds for the Cancer Society.

L - R: Teresa Smith (SWNZ), Louise Vickery (SWNZ), Hazel Thomson (SWNZ), Lily Stuart (PFR), Katie Wilson (BRI), Sarah Rowley Adams (BRI), Bridget Ennals (SWNZ)

DNAiTECH's Supreme Award

Trail-blazing technology innovated by DNAiTECH to test for disease and environmental issues in the field has won the Supreme Award at the 2023 Cawthron Marlborough Environment Awards.

Impressing not only for their innovation and wide range of environmental applications for their work, but also for their commitment to engage young people in science.

Dr Murray Broom appeared on REX Rural Exchange with an insightful interview.



2023 Environment Award Supreme Winners DNAiTECH with category sponsors. From left to right: Dr Roger Robson-Williams (Chief Sustainability Officer, Plant & Food Research), Dr Anindita Sen, Tatiana Ceban, Dr Murray Broom, Dr Callum Morris (DNAiTECH), Gerald Hope (MRC).



Anindita Sen, R&D scientist at DNAiTECH

Water Cycles and Energy Supply

In May Prof. James Renwick (Victoria University) and Paul White (GNS Science) explored the impact of fast-changing water cycles on crops and coastlines. Another popular topic was NZ's current and future energy supply.



Professor James Renwick



Chinese delegation visits New Zealand Wine Centre

A Chinese delegation of six from Ningxia met with representatives from the New Zealand Wine Centre to discuss mutual opportunities for talent exchange, international education, wine consultancy, technology, and agritech.

Left to right: Bob Richards, Chief Operating Officer, Wine Technology International Ltd, Ngarita Warden, Research Winemaker, BRI, Ms Shi Dai, Member of the standing committee & Director-General of organisation department of the CPC Ningxia committee



The world of research unleashed

Fourteen final-year vet students from Massey University visited the Marlborough Research Centre to gain insights into the region's opportunities for future career paths. The students gained a well-rounded understanding of the New Zealand Wine Centre's work and had the chance to interact with representatives from organizations like Plant and Food Research, NMIT Te Pūkenga, Wine Marlborough, Bragato Research Institute, MBIE, and DNAiTECH.

Above: Massey Vet students received an overview of the grape and wine industry before exploring the BRI Research Winery with Ngarita Warden, Research Winemaker at BRI.

Matariki celebrations

In July we took part in Matariki celebrations held on campus, led by Plant & Food Research.

We remembered those who passed by planting a native garden at the edge of the campus. The chosen plants all have Rongoā or healing properties.



Susan Foster and Sigrun Steinhagen planting native plants



Award-Winning NZ Wine Centre

The outstanding design and functionality of the New Zealand Wine Centre – Te Pokapū Wāina o Aotearoa was awarded 2023 Nelson/Marlborough Architecture Awards Winner, Commercial Architecture, by the New Zealand Institute of Architecture.

The judges particularly liked the sensitive response to place and the wider environment exhibited by the centre, while providing a focal point for a number of separate elements.



mrc digital snapshot

august 2023

content impact on website visits and audience growth

MRC's strategic content dissemination is yielding audience growth.

Frequent website updates engage readers and encourage return visits, with a remarkable +19% year-over-year increase.

MRC's strategic use of popular digital platforms maximises visibility, allowing potential readers to discover MRC's valuable information.

Engaging content drives extended stay

MRC's strategic content approach is extending visitor stays. MRC's visitors increasingly explore more content on the website, with a notable 24% year-over-year growth in page views surpassing visitor numbers. This reflects sustained reader interest and strong engagement with quality content.

MRC website statistics



Revealing Page Preferences

Beyond MRC's homepage, the news section and weather report contend for second place in popularity. This reaffirms the relevance of the news articles to the MRC audience.

These insights spotlight the powerful impact of regular, engaging content. The growing readership, prolonged stays, and content preferences underscore that the information provided is not only valuable but also highly relevant.



research and development

Marlborough
Research Centre -
Research Reports
2022 - 2023

plant and food

research highlights

Damian Martin - Science Group Leader Viticulture & Oenology

Over the past year, our research team has been diligently working on a series of impactful projects. As part of a thriving partnership with the Marlborough Research Centre Trust (MRCT), Plant & Food Research (PFR) has undertaken an array of research initiatives, each aimed at addressing pressing challenges and uncovering new insights. From viticulture and climate change to innovative agricultural practices and sustainable solutions, these reports offer an overview of our findings and contributions to the field.

Discover the latest developments in this section.

Experimental future vineyard prototype planter pots

Four prototype planter pots have been successfully constructed and tested. This groundwork, which involved defining and testing methodologies for reconstructing soils and installing intact vines and soil, has been essential for the upcoming development of modular planters for the Experimental Future Vineyard facility.

We have also conducted analyses of the cost, scope and

scientific application of the latest instrumentation and sensor equipment in collaboration with PFR colleagues undertaking a similar task for the Instrumented Orchard project within the Digital Horticulture Systems programme.

The prototype planters were filled with either silty or extremely gravelly material to provide a wide range of soil bulk density targets. We successfully installed soil moisture, mini-rhizotron and root biopsy access tubes within the planter prototypes, ensuring probe fit and sampling access requirements were met. Based on the prototype planter weights, we anticipate a maximum planter weight of 3.7 T.

We also designed and tested an efficient passive drainage system. These results provide us with confidence that the sleeve, crane and Cravo specifications are fit-for-purpose. Consequently, PFR can now confidently proceed with the contracting and ordering of the material required for the full construction of the first 16 planters.

[The full report can be viewed on our website.](#)



Prototype grapevine planter construction and filling.

Finished prototype grapevine planter with intact transplanted mature vine.

Low-growing indigenous groundcover plants' weed suppression study

Compared with current practice, planting low-growing indigenous groundcover plants to control weeds may benefit vineyard ecology. However, a lack of knowledge has hindered the practical implementation of this idea. In this study, we investigated the ability of mixed species of native groundcover to resist weed invasion once the groundcover canopy had fully covered the ground. We also assessed the percentage composition of native groundcover and weed species, along with their heights at the end of the trial.

We found that native groundcovers demonstrated an ability to protect 70% of the surface area from weed invasion after just one growing season. Particularly noteworthy was the significant restraint and suppression of grass growth by the native groundcover. Dandelion was the main weed species (66%) impeding the growth of native groundcovers. Native species with woody stems proved more effective at controlling broadleaf weed species that lack true stem growth habits, like dandelion.



To enhance resistance to weed invasion in the future, it would be beneficial to plant groundcover species with woody structures in close proximity to each other. Additionally, incorporating fast-growing plants with less woody structure among the woody plants would further reduce weed invasion. This approach would enable the fast-growing plants to quickly fill any gaps among the woody plants, providing a more robust defence against weed invasion.

[The full report can be viewed on our website.](#)

Transplanting mature grapevines into pots

Grapevine trunk diseases (GTD) that we are interested in studying develop over several years as the vine ages. Symptoms in spur-pruned vines are often not visible until the vines reach at least 8 years of age, while cane pruned vines may not exhibit external symptoms until they are at least 14 years old. Within the new Experimental Future Vineyard (EFV), we aspire to study vines affected by GTD without the need to establish experiments decades before the trial's commencement.

During a visit to Bordeaux in 2020, we observed the successful transplantation of 23-year-old vines into small potted systems for experimentation. Based on the ability of the French researchers to successfully transplant vines with GTD symptoms into small pots, the New Zealand

Institute for Plant and Food Research Ltd (PFR) team in Marlborough investigated the logistics and other limiting factors associated with transplanting mature Marlborough-grown Sauvignon blanc vines into prototype planter modules under development for the EFV.

The aim of the work was to develop a method for relocating vines and their associated soil cores from vineyards to the modules while minimising disturbance. The project team investigated various methods of vine and soil extraction. On the day of fieldwork, multiple methods of vine removal were investigated, including digging a square trench at least 30cm from the trunk and 50cm deep.

The most successful method for extracting vines with an intact soil core involved using a prototype ring system. Other methods resulted in considerable soil core breakdown during extraction or movement of the vine, leading to less desirable outcomes. The ring system core stayed

intact and could be transplanted into the prototype pot after transportation from the vineyard to the MRC site. Subsequently, PFR has engaged Cuddon Engineering to design a multi-part metal ring system that can be driven into the soil around a plant to extract the core with the vine still intact.

[The full report can be viewed on our website.](#)

A combination of a digger and hand digging was used to remove soil from around the core containing the soil and roots of the vine to a depth of 50 cm.



GCMS method development of a volatiles analysis suite for Pinot noir

We have developed a quantitative method to analyse volatile compounds known to influence wine flavour. Our focus has been on optimising the analysis of C6 alcohols and aldehydes, collectively known as green-leaf volatiles.

This method development and validation study has included the determination of response linearity, precision (repeatability), and accuracy (recovery studies). Under the experimental conditions in this study, the results obtained confirm the method's robustness and reliability for analysing volatile C6 alcohols and aldehydes in wines.

We are now in a position to measure and assess the differences in green aromas between Pinot noir wines produced from grapes derived from viticultural or winemaking experiments. This work ensures that the method developed is not only reliable but also capable of delivering accurate results, instilling confidence in our research.

Once the library standards are finalised, the method will be applied to assess differences between wines made with grapes from vineyards possessing various attributes, comparing them with the grape flavour potential.

[The full report can be viewed on our website.](#)



GCMS instrument.



Sample preparation.

Adding value to Marlborough waste streams using insect bioconversion

Marlborough-based industries generate a variety of waste streams, including grape marc from the winemaking process and mussel shells from the aquaculture industry. These waste streams present an ongoing challenge in terms of appropriate disposal or re-use. This report details our third year of research into the potential of insects to bioconvert grape marc and other waste streams from the Marlborough region into higher-value products.

Previous studies identified mealworms (larvae of the beetle *Tenebrio molitor*) as a species capable of digesting both grape marc and ground mussel shells. These assessments of grape marc consumption by mealworms were conducted inside 23–25°C controlled-environment rooms, mostly using small containers.

We have now scaled up to larger containers measuring 35 cm x 50 cm x 100 cm. By placing these larger containers in multiple environments, we assessed the impact of variable diurnal temperature and humidity patterns on grape marc consumption. Grape marc consumption was evaluated at ambient indoor temperatures in Auckland, under outside-ambient conditions in both Marlborough and Auckland, and within a tunnel house in Marlborough. Additionally, we studied grape marc consumption by mealworms in rotatable compost bins to determine whether rotating the grape marc increased consumption.

In combination with a Plant & Food Research (PFR) programme investigating insects as potential components of aquafeeds, we characterised the amino-acid profile of mealworms fed these diets. Mealworms fed a diet of grape marc and mussel shells were found to contain significantly higher concentrations of taurine than those fed a standard diet. Taurine is a non-protein-forming amino acid, essential for fish nutrition.

An online seminar showcased recent research investigating the use of insect bioconversion to add value to Marlborough waste streams. A recording of the seminar can be viewed here: <https://vimeo.com/841035711?share=copy>

[The full report can be viewed on our website.](#)



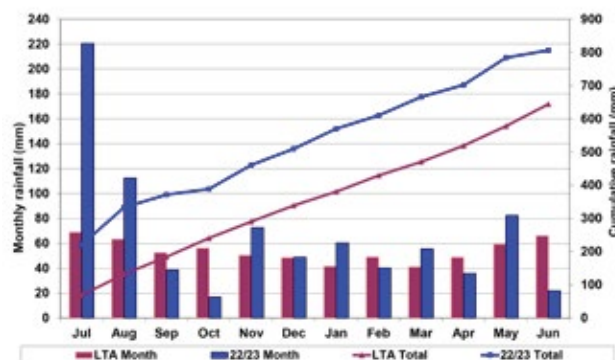
Above: Grape marc and mealworm contents of the black bin (left) and (right) the rotating compost bin (right) after 26 days.

Marlborough Meteorological Services

The mean temperature for the 12 months from 1 July 2022 to 30 June 2023 was 13.9°C, which is 0.7°C above the long-term average (LTA). The 2022–23 year now ranks as the third equal warmest July to June year for Blenheim in the 91-year period from 1932–33 to 2022–23. When we examine the seasonal temperature changes, it becomes evident that the winter temperatures have warmed to a much greater extent than those in the other three seasons. This warming trend in winter has also been consistently observed in previous reports, where we have shown that the number of ground frosts recorded annually in Blenheim has dramatically reduced from an average of 109 in 1932 to only 35 in 2022.

The total sunshine for the 12 months was 2324.8 hours, which is 93% of the LTA. Eight of the 12 months recorded fewer sunshine hours. This 12-month period recorded 456.2 hours less sunshine than the highest total ever recorded in 2015–16.

Total rainfall for the period was 806.2 mm (Figure 1). This was 125% of the LTA (644.1 mm). This is the eighth highest July to June total on record over the 93 years 1930–31 to 2022–23. However, only six of the 12-months recorded above average rainfall. July 2022 recorded 220.6 mm rainfall, which is 342% of the LTA. The July total has now become the highest rainfall for any month over the 93 years from 1930 to 2022, marking the first time that Blenheim’s monthly rainfall exceeded 200 mm.



Above: Blenheim monthly and annual rainfall for the 12 months July 2022 to June 2023.

The average daily wind-run for the year was 199.5 km. This marks the lowest annual average daily wind-run total over the 27 years from 1996 to 2022 and it is the first time the annual average has fallen below 200 km. Four months during the year (September, December, January, April) recorded their lowest wind run totals over the 27-year period.

The total growing degree days (GDD) in Blenheim for the 8-month growing season (September to April) in 2022–23 were 1397.1, which is 108% of the LTA. This total was only slightly lower than in the 2021–22 season, which recorded 1429.5 GDDs. However, the GDD accumulation during the two seasons varied according to when warm temperatures occurred each season. Temperatures during spring 2021

and 2022 were very similar and hence the GDDs accumulated at a similar rate. However, the GDDs accumulated faster in December 2021 with warm temperatures, than in December 2022, which experienced cooler temperatures.

The very warm temperatures over flowering of Sauvignon blanc in December 2021 led to higher than average fruit set, as determined by the number of berries per bunch at harvest, resulting in yields well above average. This led to the 2022 vintage in Marlborough being the largest on record. GDDs during December 2022 were much lower than in December 2021, leading to lower fruit set and subsequent vine yields at harvest in 2023.

[The full report can be viewed on our website.](#)

Climate change simulation: first season investigation of climate warming impacts on Marlborough Sauvignon blanc

In 2022–23, a first season trial on Sauvignon blanc was established using replicated passive temperature elevation frames (PTEFs) to increase bunch-zone and canopy temperatures above ambient, to simulate a future climate warming scenario. PTEFs were successfully deployed in a commercial Marlborough vineyard from just prior to budburst to véraison. Across the four months and replicated plots (n=4), PTEFs significantly increased average temperature in developing bunch-zones and canopies by 2.4°C compared with ambient season control vines, equating to a future predicted climate change warming for Marlborough circa 2100.

Within eight weeks, we observed significant shifts in the timing of key phenological events in elevated temperature (PTEF) treated vines, with the dates of 50% flowering, 50% véraison and harvest (at industry standard Sauvignon blanc target of 21.5 °Brix) being respectively, 14 days, approximately 2 weeks and 14 days earlier compared with ambient season (control) vines.

Physiologically, we observed significantly earlier shoot growth, indicative earlier season nutrient demand (darker green canopies), and a significant 16% increase in fruit set in elevated temperature (PTEF) compared with ambient temperature (control) vines. Despite good fruit set and 4.8% greater average bunch number in elevated temperature treated (PTEF) vines, there was no significant difference in yield between treatments in this first year.

With PTEFs removed at véraison (part of intended experimental design), berries of both treatments proceeded to mature at the same location, but significantly, several weeks apart under different ambient summer/autumn 2023 seasonal temperatures and weather conditions. Given the different timings of maturation within the season, we observed significant advances in the accumulation of berry total soluble solids (TSS), significantly higher pH, and a significant decrease in titratable acidity

(TA; 1.94 g/L) in berries from vines that had been exposed to elevated temperature (PTEF) treatment until véraison, compared with ambient (control).

Overall, most significant was the observation that even when harvested at the same target TSS content (but different dates), elevated temperature treated vines had berries with an average TA 1.94 g/L lower than ambient, and with a significantly higher pH. Given the importance of the balance between sugars and acidity to any wine, but particularly low acidity to the 'crisp' Marlborough style of Sauvignon blanc, this is an important observation, and merits further investigation and exploration of both vineyard and winery-based solutions for continued adaptation.

A further important observation was the 16% increase in fruit set (and potential yield) and interaction with temperature, which contributes valuable information to support modelling efforts towards accurate seasonal yield predictions for the industry.



Above: Drone image (looking North) of the single row replicated Climate Change Simulation trial located at the Marlborough Research Centre (MRC) Rowley Research vineyard during season 2022–23. Shown is the arrangement of elevated temperature (PTEF) treatment plots, with ambient temperature control plots interspersed. For scale, the length of plots (one complete PTEF system) was 7.2 m. Image taken on 9 November 2022 and courtesy of Dr Stewart Field, NMIT Te Pūkenga.

[The full report can be viewed on our website.](#)

Travel support for visiting researchers in 2022-23

Thanks to financial assistance from Marlborough Research Centre (MRC), Claire Grose had the opportunity to attend the 18th Australian Wine Industry Technical Conference from 26 – 29 June 2022 in Adelaide. Clair presented a poster titled “Producer friendly colour analysis of Pinot noir berries” while also attending an extensive programme of plenary sessions, workshops and trade exhibitions showcasing wine tech innovation.



Above: Claire Grose (PFR) and Matthias Meyer (Marama Labs) presenting the research poster at AWITC.



Additionally, French PhD candidate Malo Tardif spent six months at the New Zealand Institute for Plant and Food Research (PFR) in Marlborough from October 2022 until March 2023. During this period, Malo conducted data collection and image analysis work focused on detecting grapevine trunk disease. With financial support from MRC, Malo was able to travel to PFR Ruakura to spend a week with staff working on multi-spectral image analysis.

Seminars

Seminar 1: Grapevines, phenology and climate change - 30 January 2023

Dr Iñaki Garcia de Cortazar-Atauri, the head of the AgroClim Unit at INRAE in Avignon, France. Inaki delivered a presentation titled “Lessons learnt from climate change impacts on grapes in France”. Over the last 20 years, Dr Garcia de Cortazar-Atauri has been involved in various projects within the wine sector in France to explore and define the impacts of and adaptation strategies to climate change.

Dr Amber Parker, a senior lecturer in viticulture at Lincoln University, presented “Flowering, climate change and variability”. Amber discussed research findings related to advances in flowering and their implications for future grape and wine production.

Seminar 2: Climate change and energy, 8 May 2023

Dr James Renwick from Victoria University gave a presentation titled “Climate change: the science”. James provided an overview of the factors driving climate change and presented examples of recent climatic events, both in New Zealand and overseas, that have been exacerbated by climate change factors. He presented some stark facts about what is at stake if global warming is unable to be limited to a 1.5°C rise in temperature.

Paul White from GNS Science gave a presentation with regards to both the New Zealand and global energy supply and CO₂ production. His presentation highlighted the significant dependence of countries on fossil fuels to meet their citizen’s energy needs, with wealthier countries having a much greater per capita dependence on fossil fuels than poorer countries.

[The full reports can be viewed on our website.](#)

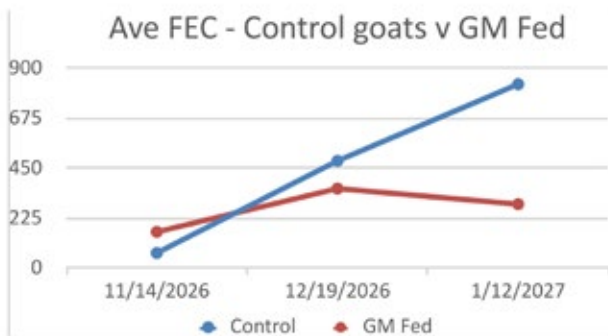
goat milk quality study

comparing milk qualities from goats supplemented with Dried and Milled Sauvignon Blanc Grape Marc (GM) and unsupplemented goats run at pasture. Phase Three Trial.

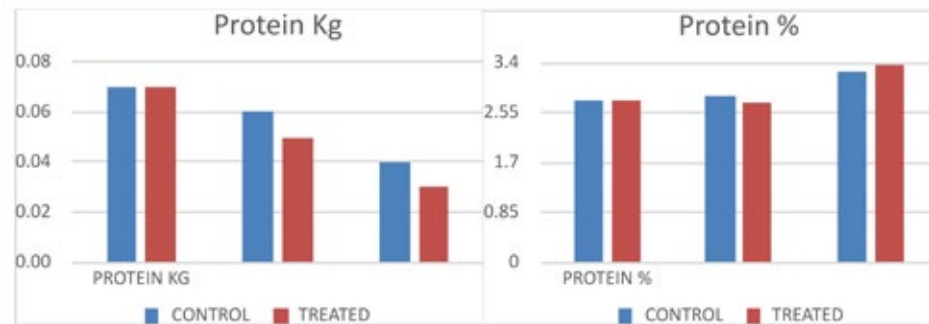
PVA Anderson / GJ Batten (June 2023)

This study aimed to investigate the effects of feeding dried and milled Sauvignon Blanc grape marc (GM) to lactating dairy goats on milk quality, particularly focusing on protein content and fatty acid composition. The trial, conducted over a nine-week period, involved two groups of goats - one receiving GM supplementation and the other serving as the control group. Milk samples were collected at various intervals, and faecal egg counts (FECs) were monitored.

Contrary to earlier expectations, the study did not confirm the hypothesis that GM supplementation would lead to increased milk protein levels. However, it reaffirmed previous findings that GM had a notable influence on the composition of important fatty acids in milk. The GM-fed group exhibited significantly lower FECs, indicating its potential for parasite management.



A potential explanation for the unanticipated protein results could be differences in access to pasture species, feed quantity, and quality between the GM and control groups. It became evident that continuous access to GM is essential for its effectiveness, leading to the necessity of managing groups separately, which can introduce environmental variables.



Ideally, a controlled setting with housed animals would provide more precise insights into the impact of GM on milk quality. Nonetheless, this study sheds light on the complexities of GM supplementation in dairy goat management.

Acknowledgements: Marlborough Research Centre for help with funding of the trial. Tracy Hay, Tapawera farmer, who supplied the goats at no cost, helped with the design and managed the trial in her busy farming schedule.

[The full report can be viewed on our website.](#)

nz dryland forests innovation

highlights 2022-23

The NZ Dryland Forests Initiative began 2023 with a significant transformation, adopting the new name “NZ Dryland Forests Innovation”. We also changed our by-line from ‘Breeding Tomorrow’s Trees Today’ to ‘Breeding durable heartwood - Whakatipu taikākā mauroa’.

These changes acknowledge that our project initiative has been successful. Commercial sales of first generation of ‘XyloGene’ improved seedlings – the result of the past 15 years’ research and breeding work – have taken off and we anticipate demand to steadily increase as there has been good grower demand to plant our improved durable eucalypts.

To facilitate the distribution and promotion of XyloGene stock a dedicated commercial entity named XyloGene/NZDFIP Ltd was established, operating via [XyloGene.com](https://xylogene.com).

Meanwhile, NZDFI’s research and development work continues under the administration and management of the Marlborough Research Centre Trust.

One exciting project started in November 2022 is a [Marlborough regional case study](#) funded by the Ministry of Primary Industry’s Sustainable Land Management and Climate Change fund (SLMACC). This research is evaluating how new investment in planting naturally durable hardwood forests could contribute to sustainability and reduce greenhouse gas emissions in Marlborough’s wine industry through a sustainable supply of naturally durable posts, timber and biomass for bioenergy. The research is being led by NZDFI partner the University of Canterbury School of Forestry, with input from the NZ Bioenergy Association, and will be complete in March 2024.

NZDFI was a key participant in the seven-year industry/government [Specialty Wood Products Research Partnership](#) (SWP). The SWP, which ended in June 2023, was very successful thanks to the support and involvement of industry partners. NZDFI’s SWP-funded research was delivered by the NZDFI Science Team – a combined Marlborough Research Centre and School of Forestry team. Thanks to this partnership, thirteen PhDs students completed significant projects to advance our R&D programme.

Key achievements by NZDFI as part of the SWP include:

- Developing and testing durable eucalypt products and associated technologies, including posts, poles, veneer and LVL
- Developing a near-infrared (NIR) spectroscopy technique for assessing heartwood extractives and durability
- Establishing eight new site/species demonstration trials, setting up a network of 130 permanent sample plots (PSPs), trial measurement and analysis. NZDFI now has over 40 trials incorporating over 600 PSPs
- Developing growth, taper and heartwood volume models for *E. globoidea*
- Establishing a seed orchard; producing clonal material and establishing a clonal trial
- Advancing knowledge of tolerance to Paropsis insect browsing; using LiDAR to assess insect defoliation
- Assessing the potential to produce essential oils from *E. bosistoana*
- Deploying the first generation of improved *E. bosistoana* and *E. globoidea* planting material under an aligned Tu Uru Rākau One Billion Trees project.

In March 2023, the SWP and NZDFI [hosted a group of 12 Australian durable eucalypt growers](#) and processors – the Durable Eucalypt Growers Forum - who came to look at a range of NZDFI durable eucalypt seed orchards and trial sites over three days.

The visit began at the University of Canterbury School of Forestry, and the group then travelled north, calling in at Proseed NZ in Amberley and then several trial sites en route to Blenheim. The final day included a forum at the Marlborough Research Centre.

NZDFI produces a biannual [Project Update](#) which has full details of its activities, and welcomes new [subscribers to the on-line newsletter](#).



1st generation improved E. globoidea seedlings in Hawkes Bay. At 20 months after planting, some trees were already over 5m tall.



Associate Professor Clemens Altaner, University of Canterbury School of Forestry, assesses durable eucalypt posts to be peeled by a tractor-mounted machine.



Freshly peeled durable eucalypt posts



*The darker, durable heartwood of this *Eucalyptus globoidea* tree is highly visible. The tree was sampled as part of research to develop a heartwood volume and taper model of the species.*



Professor Euan Mason training the UC summer student team that undertook destructive sampling of 97 durable eucalypt trees to collect data required to model total biomass under the MPI SLMACC project.



*'This sucks!'. a Schellenberg's soldier bug (*Oechalia schellenbergii*) nymph feeding on larvae of the paropsine beetle *Paropsisterna cloelia* – a eucalypt browsing pest. Photo by PhD student Carolin Weber.*



financial reports

Marlborough
Research Centre
Financial Overview
& Highlight's
2022 - 2023

contents

33	Financial Overview and Highlights
37	Entity Information
40	Statement of Service Performance
43	Trading Account - Rowley Vineyard Operations
44	Trading Account - Budge Street Property
45	Trading Account - Grovetown Park Property
46	Trading Account - Charles Street Property
47	Statement of Financial Performance
49	Statement of Financial Position
50	Statement of Cash Flows
51	Statement of Accounting Policies and Notes to the Performance Report
55	Auditor's Report

Marlborough Research Centre Financial Overview and Highlights 2021/2022

1. The Marlborough Research Centre Trust Annual Report received an unqualified audit opinion for the financial year ended 30 June 2023.

Financial Overview and Highlights

2. The following provide the key financial highlights for the year.

Description	Notes	2021/22 Actual	2022/23 Actual
Operating Surpluses	a	\$342,630	\$375,350
Other Revenue	b	\$917,868	\$682,038
Total Grants	b	\$869,820	\$580,222
Net Surplus		\$116,233	\$58,559

- a. Surplus on operations from Budge Street Campus, Grovetown campus, Rowley Vineyard and Accommodation. Improved.
- b. Other revenue includes Council and other grant funding received. Reduced owing to reduced research in relation to NZDFI (Dryland forest).
- c. Grants – managed and provided by MRC. Reduced owing to reduced research in relation to NZDFI (Dryland forest).
- d. Surplus on operations. Reduced owing to interest on loans associated with capital development.

3. The following highlights the changes in Trust Equity and Assets Employed:

Description	Note	30 June 2022 Actual	30 June 2023 Actual
Fixed Assets	a	\$8.049 million	\$9.109 million
Loans (Suspensory)	b	\$2.452 million	\$3.487 million
Loans (ANZ)	c	\$900,000	\$1.400 million
Total Trustee's Equity		\$5.288 million	\$5.346 million

- a. Fixed Assets – Growth in the value of Fixed Assets is due to the developments undertaken to create Te Pokapu Waina O Aotearoa (The New Zealand Wine Centre) on the Budget Street campus. Refer the separate section in relation to the recent and planned developments.
- b. Suspensory Loans from Kanoa's Provincial Growth Fund for the development works undertaken. These loans are suspensory provided the Wine Industry continues to invest in excess of \$2 million in research annually for the next two years. This is the equivalent to the industry levy income applied to research.
- c. The Loan facility of \$2.8 million from the ANZ is guaranteed by Marlborough District Council. \$1,400,000 has been drawn as of 30 June 2023.

Financial Support Provided

4. The following provides a list of grants provided by MRC during the 2022/23 financial year.

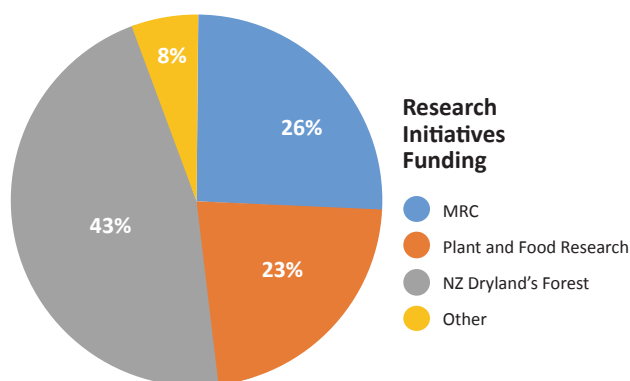
Description	Actual 2022/23	Budget 2022/23
Meteorological Services	\$27,500	\$27,500
UC Davis, University of Bordeaux joint initiative	\$18,000	\$18,000
Seminars and Workshops	\$3,796	\$6,000
Adding Value to Marlborough Waste Streams	\$25,000	\$25,000
Prototype Planter Pots (EFV)	\$65,500	\$65,500
Climate change simulation hardware and pilot project	\$25,000	\$25,000
Cost efficient establishment of low-growing indigenous plants	\$7,000	\$7,000
Biocontrol of Horehound (committed and carried forward to 2023/24)	\$0	\$5,000
NZ Dryland's Forest (NZDFI)	\$25,000	\$35,000
Flavour volatiles	\$10,000	\$10,000
Vegetation Corridors (committed and carried forward to 2023/24)	\$4,650	\$35,000
Establishing protocols for transferring mature vines	\$20,000	\$20,000
Total	\$231,446	\$279,000

5. Explanation of the programmes is contained in the body of the Annual Report. In addition to the financial contributions MRC has managed the NZ Dryland Forest Initiative which has received \$390,766 in funding support via Government agencies.

Leverage of Funding

6. The contribution by MRC for the 2022/23 financial year amounting to \$231,446 attracted leveraged funding from Central Government and Crown Research Institute. The following graphical representation shows the contributions made to trials and research expenditure totalling \$905,812.

7. For every \$1 of MRC funding provided \$3.91 was secured towards the research initiatives from third parties.



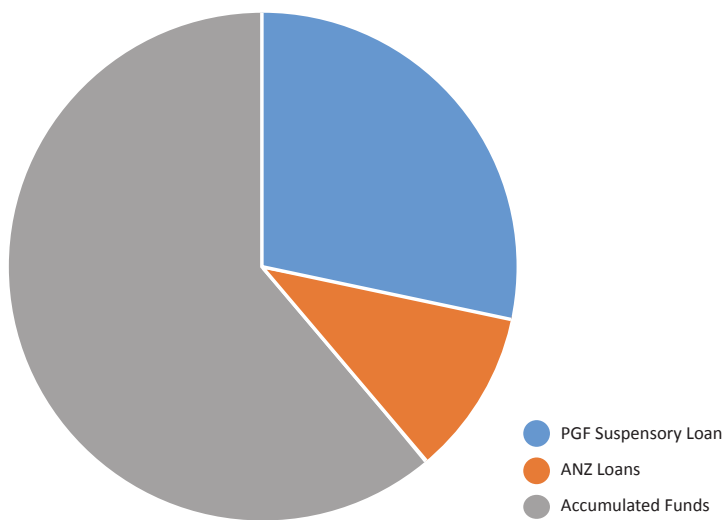
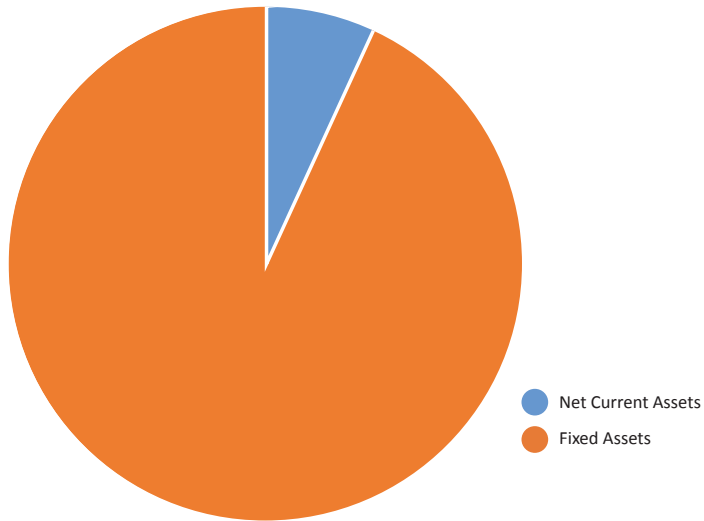
Te Pokapū Wāina O Aotearoa (The New Zealand Wine Centre)

8. Marlborough Research Centre has been developing the New Zealand Wine Centre over the last four years along with its partners Plant and Food Research, Bragato Research Centre (New Zealand Winegrowers) and Nelson Marlborough Institute of Technology (now Te Pukenga – New Zealand Institute of Skills and Technology).
9. Marlborough Research Centre secured \$3.8 million of suspensory loans, from the Provincial Growth Fund, as co funding towards the development of the New Zealand Wine Centre. This funding was additional to the Regional Research Institute funding that MRC assisted New Zealand Winegrowers secure for the establishment of the Bragato Research Institute on the Budge Street campus.
10. The campus development was officially opened by the Prime Minister on 29 September 2022 where she announced the creation of an Experimental Future Vineyard to sit alongside the Research Winery which was opened in February 2020.
11. The experimental Future Vineyard development commenced in July 2023 and is expected to be completed in April 2024.

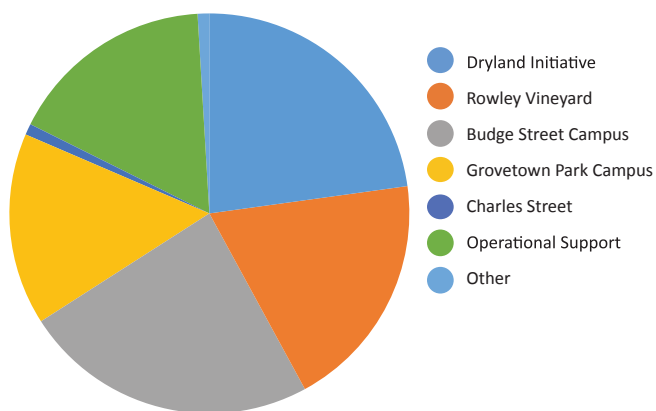
Te Pokapū Wāina O Aotearoa – Capital Development

Description	\$
Stage One – Integrated Hub and Offices	\$3.673 million
Stage Two – Shared Entrance, car parking and landscaping	\$1.340 million
Stage Three - Experimental Future Vineyard	\$304,000 (Work in Progress)
Stage Four – Accommodation	\$725,000

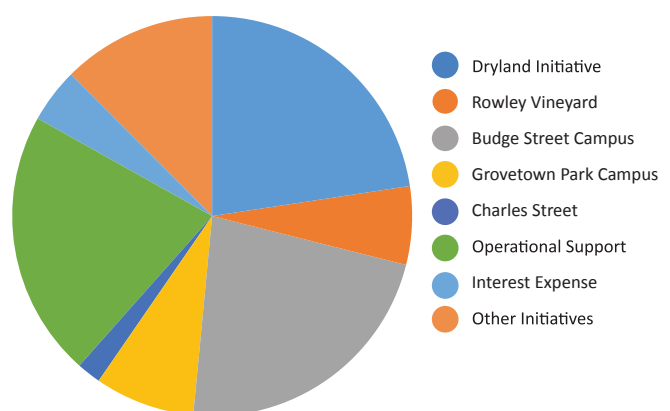
Financial Overview A Graphical Representation



Income



Expenditure



Entity Information

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

Legal Name

Marlborough Research Centre Trust (MRC)

Charities Register Number

CC10533

Date of Formation

21 December 1984

Location

85 Budge Street
BLENHEIM

Chief Executive

Gerald Hope

Trustees include

Bernie Rowe (Chair MRC Trust)
Edwin Pitts (Chair MRC Board) - resigned 19.4.23
Ivan Sutherland
Clive Jones - appointed 19.4.23

Trustees

The number of Trustees is three that forms the Board. The power of appointments of new Trustees is vested in the Trustees. The key to success over more than three decades of the MRC has primarily been due to the long service and commitment of individual Board members to the objectives of the MRC. A committee of MRCT is the MRC Advisory Committee that provides science and policy advice to the Trust on matters relating to areas of research that are funded annually.

Entity Purpose or Mission

The intent and purpose of the Trust is to provide a research centre based in Marlborough and to fund targeted primary sector research. The Trust Deed specifies that MRC undertakes to fund innovative research, encourage and promote production in all forms from pastoral, horticultural, agricultural and arable sectors.

With the completion of the New Zealand Wine Centre in the past year alongside the recently established Bragato Research Institute the central hub of co located innovators and research specialists is expanding.

Optimising the professional working relationships and interactions between Plant & Food Research, BRI and NMIT while bringing together research, business and education is paramount in future years.

Maintaining a close alignment with Marlborough District Council on regional economic development programmes is equally important to ensure maximum district wide benefit is achieved.

Vision

Our vision is to be an integrated cohesive hub for the grape and wine sector in New Zealand, while maintaining connections and accessibility to research and education for other primary production sectors in Marlborough.

**NMA Nelson
Marlborough Audit
Limited**

NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

To achieve our vision we will:

- Identify research, new innovation and appropriate development opportunities that will result in sustainable future focused economic development
- Facilitate and connect research, innovative business and education pathways to each other
- Connect research, business and education to the resources they require to succeed

Our focus is on maximising the region's potential through science, research and technology to benefit the health and wellbeing of all people in the Marlborough region.

Values

To support our vision, we will be:

Connected – We will be proactive and persistent in connecting people and opportunities in Marlborough to each other and within New Zealand and to the world.

Focused – We will focus on the achievement of real, measurable success in all areas of our participation.

Knowledgeable – We will be open to new ideas, proactive about exploring opportunity and diligent about communicating new ideas.

Energetic – We will diligently apply ourselves to achieving our vision.

Unique – We will offer a unique value proposition to Marlborough and New Zealand as the only independent multidisciplinary New Zealand Wine Centre.

Main Sources of Cash and Resources

MRC Trust receives its primary income from commercial rental received from two campuses which it owns and administers. An annual grant from Marlborough District Council of \$286,020; sale of grapes from the Rowley Vineyard to a NZ owned Marlborough based wine company. Other income and expenditure are based on fixed term research contracts that do not eventuate every year but are administered by MRC as an 'in kind' contribution toward those programmes.

Main Methods Used to Raise Funds

Grants, rental income and sale of grapes.

Reliance on Volunteers and Donated Services

MRC would not exist without the help and support of many local companies and individual supporters in the primary sector. Since establishment in 1984 board members and Trustees volunteer time as governors and donate resources in support of research programmes. MRC has a vineyard that sets aside areas for research to be undertaken by Plant and Food Research and other organisations as required. The value of this in-kind support is assessed at \$84,000.

There is strong support and generous goodwill for the research programmes undertaken through the MRC.

Operational Structure

The Marlborough Research Centre Trust organisation is managed by a contracted Chief Executive supported by an Office and Accounts Manager. Both positions are responsible for the general management and smooth running of the Budge Street campus and Grovetown Park campus with 18 tenant groups housing around eighty people. Rowley Vineyard is contract managed. All positions report through the Chief Executive to the MRCT Board.

IRD Number

031-535-289

GST Status

Payments Basis, Two Monthly, Coinciding with Balance Date

Chartered Accountants

WK Advisors and Accountants Limited
P O Box 349
Blenheim 7240
Contact - Vaughan Harris

Auditors

NMA Nelson Marlborough Audit Ltd
PO Box 732
Nelson 7040

Barrister and Solicitors

Gascoigne Wicks
PO Box 2
BLENHEIM 7240

Bankers

ANZ Bank

**NMA Nelson
Marlborough Audit
Limited**

Statement of Service Performance

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

Description of Entities Outputs

MRC Trust owns and operates facilities on two campuses based at 85 Budge Street and State Highway 1 Grovetown. It also owns a vineyard located at Rowley Crescent that produces sauvignon blanc and offers a trial site for research projects undertaken by Plant and Food Research, NMIT, Bragato Research Institute and industry associates.

Marlborough District Council has been a long-term supporter of MRCT and provides an annual research grant that is allocated to local research projects initiated by Marlborough based researchers and supported by industry. The key objective is to identify and fund local primary sector research, support industry driven initiatives, promote and encourage technology transfer in all ways practical.

MRC Trust also provides administration and operational services to the eighteen tenant groups across both campuses. The importance of relationships and collaboration is recognised by the MRC Trust. Visitors and events are hosted and supported by MRC Trust that promote and develop regional activity predominantly relating to primary industry and the rural economy.

The past year has seen the consolidation of eight groups on the Budge Street campus totalling fifty-nine people under the New Zealand Wine Centre after the opening of the Centre by the Prime Minister Jacinda Ardern in September 2022. The new facility with its generous spaces and excellent meeting rooms has been outstandingly successful and greatly appreciated by all user groups and visitors. Rebranding of the Blenheim campus will complete this significant investment as the New Zealand Wine Centre - Te Pokapū Wāina o Aotearoa.

The final stage of planned current development is the future focused Experimental Future Vineyard. Over the year a project management group of scientists, educators, architects and engineers has worked methodically, achieving the final design with completion of the project in early 2024.

MRCT has been the project lead and co funder with Government agency Kanoa.

Research Grants approved 2022 – 2023

Description	Status	Budget 2022-2023	Actual
Meteorological Service	Ongoing	27,500	27,500
Travel Support for visiting Researchers	Travel support for visiting researchers post Covid	6,000	3,796
Supporting University of Bordeaux PhD 50% share.	Current: - completes August 2023. \$18k for 2022/23 year.	18,000	18,000
Experimental Future Vineyard Prototype Planter Pots	Develop and install prototype in ground planter pots for EFV real time analysis of plant growth.	65,500	65,500
Establishing protocols for transferring mature vines with trunk disease into controlled environments	NEW in 2022-23 To determine if vines removed from mature vineyards can be transplanted into pots and grown under plastic house conditions for experimental use.	20,000	20,000

**NMA Nelson
Marlborough Audit
Limited**

NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Adding Value to Marlborough Waste Streams	Third year of waste stream funding but mealworms project will be in its second full year. The aim of this research is to determine if we can produce insect meal for use in aquafeeds by feeding insects on by-products from Marlborough-based industries. Insect meal is used as a partial replacement for fishmeal in aquafeeds.	25,000	25,000
Developing capability for the analysis of flavour volatiles in wines and fruit	New in 2022-23 Develop a quantitative method for analysis of volatile compounds that contribute to Pinot Noir flavour. Apply the method to wine samples from the Pinot Noir (PN) Programme and also grape samples to understand the flavour evolution from grape to wine. To be matched with \$10,000 with PFR internal support.	10,000	10,000
Establishment of low-growing indigenous plants	Small pilot project began in 2021 This project has established native ground cover plants in a plot at the back of the NMIT vineyard. The study will concentrate its efforts on investigating if the native plants can hold the ground from invasive grass and other weed competition. To be matched by \$7,000 funding by Cloudy Bay.	7,000	7,000
Supporting vegetation corridors PhD of Berit Mohr	New in 2022-23 To support the Ph.D. project of Berit Mohr as well as upskilling staff at the MRC in modern methods of spatial mapping.	35,000	4,650 (Request to carry \$30,000 into 2023/24)
Determining the impacts of an average 1.5°C seasonal climate warming on vine to wine production of Marlborough Sauvignon blanc	2021-22 was pilot study This year this project will scale up the in-vineyard passive heating system to simulate warmer growing conditions in Marlborough. The project will install the heating frames in the Rowley Crescent vineyard.	25,000	25,000
Biocontrol of Horehound	Current – second year of funding.	5,000	0 (Request to carry \$5,000 into 2023/24)
NZDFI Sustainable Land and Climate Change Fund	Joint proposal. A regional case study to evaluate new forestry investment in eucalypts to produce naturally durable hardwood could contribute to sustainability and reduce GHG emissions in the Marlborough wine industry.	10,000	0
In-Kind			
NZDFI	1BT project	15,000	15,000
Start Up Weekend – MDC and Business Trust Marlborough	Use of facilities at 85 Budge Street for 3 day event.	3,500	3,500

Total		272,500	224,946
	Request for funds to be carried into 2023/24		35,000
Total including funds carried into 2023/24		272,500	259,946

Capital Development

MRC has undertaken a four staged capital development, the budgets and expenditure as at 30 June 2023 is as follows:

Expenditure	Forecast	Actual
Stage One - Integrated Hub and Offices	\$3,731,823	\$3,673,732
Stage Two - Shared Entrance, car parking and Landscaping	\$1,351,749	\$1,340,029
Stage Three - Experimental Future Vineyard	\$3,091,797	\$304,541
Stage Four - Accommodation	\$725,000	\$725,000
	\$8,900,369	\$6,043,302

Funding for these developments is provided by Provincial Growth Fund \$3.8 million, NMIT \$840,000 and MRC through reserves and loan funding \$4 million.

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Trading Account - Rowley Vineyard Operations

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	2023	2022
Trading Income			
RV - Grape Sales		329,735	344,768
Total Trading Income		329,735	344,768
Gross Profit			
		329,735	344,768
Expenses			
Vineyard Operating Costs		97,464	155,002
Vineyard Rent, Rates & Insurance		7,308	6,720
Total Expenses		104,772	161,721
Net Profit from Trading			
		224,963	183,046

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Trading Account - Budge Street Property

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	2023	2022
Trading Income			
Group Charges		171,770	126,820
BS - Tenant Rentals		232,605	187,363
BS - Theatre Charges		4,302	1,400
Total Trading Income		408,677	315,584
Gross Profit			
		408,677	315,584
Expenses			
Depreciation and Amortization		169,209	87,855
Group Costs		162,353	106,281
BS - Repairs & Maintenance		41,961	33,132
Total Expenses		373,524	227,268
Net Profit from Trading		35,154	88,316

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Trading Account - Grovetown Park Property

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	2023	2022
Trading Income			
Group Charges		93,985	87,217
GP - Tenant Rentals		172,041	147,460
Total Trading Income		266,026	234,676
Gross Profit			
		266,026	234,676
Expenses			
Depreciation and Amortization		31,075	30,494
Group Costs		85,954	73,291
GP - Repairs & Maintenance		16,847	59,623
Total Expenses		133,876	163,408
Net Profit from Trading		132,150	71,268

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Trading Account - Charles Street Property

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	2023
Trading Income		
CS - Accommodation Revenue		14,611
CS Power Recoveries		745
Total Trading Income		15,356
Gross Surplus		
		15,356
Expenses		
Group Costs		11,646
CS Depreciation		19,614
CS Repairs & Maintenance		1,013
Total Expenses		32,273
Net Surplus from Trading		(16,917)

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Statement of Financial Performance

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	2023	2022
Income			
Operating Surpluses Transferred			
Rowley Vineyard Operations		224,963	183,046
Budge Street Property Account		35,154	88,316
Grovetown Park Property Account		132,150	71,268
Charles Street Property Account		(16,917)	-
Total Operating Surpluses Transferred		375,350	342,630
Other Revenue			
Fruitfed Sponsorship		5,000	-
Grant - Other		-	30,000
MRC - Marlborough District Council		286,020	270,596
Sundry Income		252	-
NZ Dryland Forests Initiative Projects Grants		390,766	617,272
Total Other Revenue		682,038	917,868
Total Income		1,057,388	1,260,498
Expenses			
Operating Expenses			
MRC - Associate		32,973	-
MRC - Audit Fees		5,700	5,950
MRC - Insurances		9,555	8,977
Office Expenses		24,422	18,752
Operating Expenses		38,898	15,223
Personnel		201,769	191,787
Sponsorship- Cawthron Environment Awards		5,000	-
Trust Share of Operating Costs		29,950	16,348
Total Operating Expenses		348,268	257,038
Grants			
Grant NZ Dryland Forests Initiative - Expense		373,776	590,795
Grant - Adding value to Marlborough Waste Streams		25,000	20,000
Grant - Anthemintic Potential of Grape Marc		-	37,000
Grant - Climate Change Simulation hardware and pilot project		25,000	6,000
Grant - Cost Efficient Establishment of Low-growing Indigenous Plants		7,000	5,000
Grant - EFV Prototype Planter Pots		65,500	-
Grant - Establishing Protocols transferring mature vines		20,000	-
Grant - Experimental Future Vineyard		-	81,225
Grant - Flavour volatiles		10,000	-
Grant - Horehound Biocontrol Project		-	5,000
Grant - Meteorological Service		27,500	27,500
Grant - PFR CSeminars and Workshops		3,796	4,300
Grant - Rapid Diagnostic US Davis Publication Support		-	6,000

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Statement of Financial Performance

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	2023	2022
Grant - Top of the South Waste Stream Mapping		-	60,000
Grant - UC Davis - Bordeaux Uni		18,000	27,000
Grant - Vegetation Corridors		4,650	-
Total Grants		580,222	869,820
Total Expenses		928,490	1,126,858
Net Operating Surplus		128,898	133,640
Depreciation and Amortization			
MRC - Depreciation - Loss on Disposal		-	2,805
MRC - Depreciation Expense		8,417	6,873
Total Depreciation and Amortization		8,417	9,678
Net Surplus Before Interest		120,481	123,962
Investment Income			
MRC - Interest Received		10,922	607
Total Investment Income		10,922	607
Interest			
Interest - Loans		72,844	8,336
Total Interest		72,844	8,336
Net Surplus (Deficit) for the Year		58,559	116,233

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

Statement of Financial Position

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	NOTES	30 JUN 2023	30 JUN 2022
Assets			
Current Assets			
Bank accounts and cash		1,197,192	850,402
Debtors and prepayments		362,268	89,817
GST		(4,483)	66,274
NZDF IP Ltd Loan/Advance		25,000	8,729
Total Current Assets		1,579,977	1,015,222
Non-Current Assets			
Property, plant and equipment	3	8,928,645	4,726,354
PGF Architectural Fees		-	401,630
PGF Civil Fees		-	32,709
PGF Construction		-	2,582,979
PGF - Experimental Future Vineyard		180,721	-
PGF Professional Fees		-	226,005
PGF Project Management Fees		-	79,500
Total Non-Current Assets		9,109,366	8,049,178
Total Assets		10,689,343	9,064,400
Liabilities			
Current Liabilities			
Accounts Payable		376,855	357,843
Accrued Expenses		78,858	57,234
Donation - PFR from MGGT		-	9,252
Total Current Liabilities		455,713	424,329
Non-Current Liabilities			
Loans		4,887,453	3,352,453
Total Non-Current Liabilities		4,887,453	3,352,453
Total Liabilities		5,343,166	3,776,782
Net Assets		5,346,177	5,287,618
Accumulated Funds			
Accumulated surpluses or deficits		5,177,365	5,118,806
Reserves		168,812	168,812
Total Accumulated Funds		5,346,177	5,287,618

Signed by:

4 / 11 / 2023



Date:

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Limited**

Statement of Cash Flows

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

	30 JUN 2023	30 JUN 2022
Cash Flows from Operating Activities		
Receipts from providing goods and services	896,528	898,749
Interest, dividends and other investment receipts	10,922	607
Grants, sponsorship and other revenue	579,908	903,868
Payments to suppliers and employees	(618,133)	(687,664)
Grants paid	(523,326)	(925,906)
Interest Paid	(72,844)	(8,336)
Net GST	(28,194)	3,862
Net Cash Flows From Operating Activities	<u>244,861</u>	<u>185,181</u>
Cash Flows from Investing and Financing Activities		
Proceeds from loans borrowed from other parties	1,535,000	1,983,734
Proceeds from sale of fixed assets	-	-
Payments to purchase investments	(25,000)	-
Payments to purchase fixed assets	(1,408,071)	(3,083,151)
Net Cash Flows From Investing and Financing Activities	<u>101,929</u>	<u>(1,099,417)</u>
Net Cash Flows	<u>346,790</u>	<u>(914,236)</u>
Cash Balances		
Cash and cash equivalents at beginning of period	850,402	1,764,640
Cash and cash equivalents at end of period	<u>1,197,192</u>	<u>850,404</u>
Net change in cash for period	<u>346,790</u>	<u>(914,236)</u>

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Statement of Accounting Policies and Notes to the Performance Report

Marlborough Research Centre Trust (MRC) For the year ended 30 June 2023

1. Basis of Preparation

The financial statements presented here are for the entity Marlborough Research Centre Trust (MRC) a Trust registered under the Charitable Trusts Act 1957.

Marlborough Research Centre Trust (MRC) is eligible to apply Tier 3 PBE Accounting Standards : PBE SFR-A (NFP) Public Benefit Entity Simple Format Reporting - Accrual (Not-For-Profit), on the basis that it does not have public accountability and has total annual expenses equal to or less than \$2,000,000. All transactions in the financial statements are reported using the accrual basis of accounting.

The accounting principles recognised as appropriate for the measurement and reporting of earnings and financial position on an historical cost basis have been used, with the exception of certain items for which specific accounting policies have been identified.

The financial statements are presented in New Zealand dollars (NZ\$) and all values are rounded to the nearest NZ\$, except when otherwise indicated.

The financial statements are prepared under the assumption that the entity will continue to operate in the foreseeable future.

Changes in Accounting Policies

There have been no changes in accounting policies. All policies have been applied on bases consistent with those used in previous years.

Revenue

Revenue is recognised to the extent that it is probable that the economic benefit will flow to the entity and revenue can be reliably measured. Revenue shall be recorded on the occurrence of a recognition event. This is when there is a legal right to receive cash either now or sometime in the future. Revenue is measured at the fair value of the consideration received.

The following specific recognition criteria must be met before revenue is recognised:

- Sales of services are recognised in the accounting period in which the services are rendered.
- Rental income is recognised on an accruals basis in accordance with the substance of the relevant agreements.
- Interest revenue is recognised as it accrues, using the effective interest method.
- Lease income is recognised on an accruals basis in accordance with the substance of the relevant agreements.
- Grant revenue is recognised when the conditions attached to the grant has been complied with. Where there are unfulfilled conditions attaching to the grant, the amount relating to the unfulfilled condition is recognised as a liability and released to revenue as the conditions are fulfilled.
- Sponsorship income is recognised on an accruals basis in accordance with the substance of the relevant agreements.

Grants made to be carried forward

The following grants have been approved to be carry forward into the 2023/24 financial year.

- Horehound Biocontrol Project - \$5,000
- Supporting Vegetation Corridors PhD of Berit Mohr - \$30,000

Goods and Services Tax

The Statement of Financial Performance and Statement of Cashflows (where included) have been prepared so that all components are stated exclusive of GST. All items in the Statement of Financial Position are stated net of GST, with the exception of account receivables and payables. Marlborough Research Centre Trust (MRC) is registered for GST.

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Account Receivable

Receivables are stated at their estimated realisable value. Bad debts are written off in the year in which they are identified.

Work in Progress

Work in Progress has been valued at cost of materials, labour and other direct costs incurred to date.

Fixed Assets

Fixed Assets have been included at cost less accumulated depreciation, with the exception of land, which have been revalued as at June 2014. Details of fixed assets are set out in Note 3.

Depreciation

Depreciation has been charged on either a diminishing value (DV) or cost price (CP) basis. Details of rates and depreciation claims are set out in Note 3.

Income Tax

No provision for Income Tax has been made as there is no current tax payable, as Marlborough Research Centre Trust (MRC) is not subject to income tax.

2. Audit

These financial statements have been subject to audit, please refer to Auditor's Report.

	2023	2022
3. Property, Plant and Equipment		
Buildings		
Buildings	9,812,511	5,744,733
Accumulated Depreciation - Buildings	(1,487,716)	(1,316,794)
Total Buildings	8,324,796	4,427,939
Furniture and Fittings		
Furniture & Fittings	363,662	322,360
Accumulated Depreciation - Furniture & Fittings	(177,759)	(130,433)
Total Furniture and Fittings	185,903	191,927
Plant and Machinery		
Plant & Machinery	163,479	163,479
Accumulated Depreciation - Plant & Machinery	(135,539)	(133,160)
Total Plant and Machinery	27,941	30,319
Other Fixed Assets		
Other Fixed Assets	622,860	301,334
Accumulated Depreciation - Other Fixed Assets	(232,854)	(225,166)
Total Other Fixed Assets	390,006	76,168
Total Property, Plant and Equipment	8,928,645	4,726,354

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NOTE: These statements are to be read in conjunction with the Notes to the Financial Statements and are subject to the Auditors Report

The Land and Improvements were revalued by Alexander Hayward, independent registered valuer (F.N.Z.I.V, F.P.I.N.Z) in June 2014. The methodology employed reflects fair value incorporating the lease conditions and remaining term in respect of land at Budge Street.

Depreciation rates used are:

Building 2% DV
 Grovetown Park building fitout and amenities 2% CP or 4-25% DV
 Budge Street building fitout and amenities 10-20% DV
 Plant and Equipment 10-50% DV
 Furniture and Fittings 8-67% DV
 Vineyard 6-40% DV

4. Events After the Balance Date

There were no events that have occurred after the balance date that would have a material impact on the Performance Report (2022: nil).

5. Contingent Liabilities

At balance date there are no known contingent liabilities. Marlborough Research Centre Trust has not granted any securities in respect of liabilities payable by any other party whatsoever. (2022: Nil).

6. Capital Commitments

In regards to Capital Commitments at balance date, we refer to The Statement of Service Performance, Stage One, Two, Three & Four expenditure.

7. Ability to Continue Operating

The entity will continue to operate for the foreseeable future.

8. Related Parties Transactions

Gerald Hope is a director of New Zealand Dryland Forests Limited

Transactions occurring in relation to New Zealand Dryland Forests Limited for the year are outlined below (grants received and spent).

Income - \$390,766 (2022: \$617,272)
 Expenses - \$373,776 (2022: \$590,798)

Accounts Receivable and Payable at year end in relation to New Zealand Dryland Forests Limited were:

Accounts Receivable - \$nil
 Accounts Payable - \$nil

Related party loans to New Zealand Dryland Forests Limited details for the 2023 year are as follows:

NZDF IP Ltd Loan/Advance	
Opening Balance:	\$8,729
Advances:	\$25,000
Repayments:	(\$8,729)
Closing Balance:	\$25,000

	2023	2022
9. Loan		
PGF Facility Draw Down	(3,487,453)	(2,452,453)
ANZ Loan - NZWC	(1,400,000)	(900,000)
Total Loan	(4,887,453)	(3,352,453)

Funding for the development of Te Pokapū Wāina O Aotearoa has been secured from Kānoa (formerly PGF) totalling \$3.79m. ANZ bank has approved borrowing of \$2.8m with a facilities guarantee agreement provided by the Marlborough District Council. The balance offunds for the developmentis sourced form the MRC building reserve. The facility is secured by MRC in favour ofthe Ministry by a registered second ranking general security agreementin respect of all ofits present and after acquired property.

INDEPENDENT AUDITOR'S REPORT**To the Beneficiaries of Marlborough Research Centre Trust****Report on the Performance report**

NMA Nelson Marlborough Audit Ltd

Opinion

We have audited the performance report of Marlborough Research Centre Trust, which comprise the entity information, the statement of financial position as at 30 June 2023, the statement of service performance, the trading accounts, the statement of financial performance, and statement of cash flows for the year then ended, and notes to the performance report, including a summary of significant accounting policies.

In our opinion, the performance report presents fairly, in all material respects;

- the entity information for the year then ended
- the service performance for the year then ended
- the financial position of Marlborough Research Centre Trust as at 30 June 2023 and its financial performance, and cash flows for the year then ended

in accordance with Public Benefit Entity Simple Format Reporting – Accrual (Not-For-Profit).

Basis for Opinion

We conducted our audit of the statement of financial performance, trading accounts, statement of financial position, statement of cash flows, statement of accounting policies and notes to the performance report in accordance with International Standards on Auditing (New Zealand) (ISAs (NZ)), and the audit of the entity information and statement of service performance in accordance with the International Standard on Assurance Engagements (New Zealand) ISAE (NZ) 3000 (Revised).

Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Performance Report* section of our report.

We are independent of the Trust in accordance with Professional and Ethical Standard 1 (Revised) *Code of Ethics for Assurance Practitioners* issued by the New Zealand Auditing and Assurance Standards Board and the International Ethics Standards Board for Accountants' *Code of Ethics for Professional Accountants (IESBA Code)*, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other than in our capacity as auditor we have no relationship with, or interests in, the Trust.

The Responsibility of the Trustees for the Performance Report

The Trustees are responsible on behalf of the entity for:

- (a) Identifying outcomes and outputs, and quantifying the outputs to the extent practicable, that are relevant, reliable, comparable, and understandable, to report in the statement of service performance.
- (b) the preparation and fair presentation of the performance report which comprises:
 - the entity information
 - the statement of service performance
 - the statement of financial performance, statement of financial position, statement of cash flows, statement of accounting policies and notes to the performance report

in accordance with Public Benefit Entity Simple Format Reporting – Accrual (Not-For-Profit) issued in New Zealand by the New Zealand Accounting Standards Board.

- (c) for such internal control as the Trustees determine is necessary to enable the preparation of the performance report that is free from material misstatement, whether due to fraud or error.

In preparing the performance report, the Trustees are responsible on behalf of the Trust for assessing the Trust's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Trust or to cease operations, or have no realistic alternative but to do so.



NMA Nelson Marlborough Audit Ltd

Auditor's Responsibility for the Audit of the Performance Report

Our objectives are to obtain reasonable assurance about whether the performance report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (NZ) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could be reasonably expected to influence the decisions of users taken on the basis of the performance report.

As part of an audit in accordance with ISAs (NZ), we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the performance report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Trust's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the use of the going concern basis of accounting by the Trustees and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Trust's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the performance report or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Trust to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the performance report, including the disclosures, and whether the performance report represents the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

NMA Nelson Marlborough Audit Ltd

NMA Nelson Marlborough Audit Limited
PO Box 732
Nelson 7040

4 November 2023



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Only Marlborough

