



GROWING TOGETHER 2035

Aotearoa Horticulture
Action Plan - Strategy

February 2023





FOREWORD

The Aotearoa Horticulture Action Plan has been developed by industry, Māori, research providers and government to ensure the commercial horticulture sector meets its target of increasing grower returns and achieving \$12 billion in revenue by 2035.

For the industry to achieve this target, as well as respond to climate change and maintain its social licence, it needs to have clear and agreed outcomes and goals, and associated actions and resources.

Aotearoa New Zealand's commercial horticulture sector feeds New Zealanders and makes a major contribution to the national economy, regional economies and communities. It's a significant export earner, returning more than \$6 billion annually in total farmgate sales.

This proud position is the result of decades of focus, investment and hard work. The Aotearoa Horticulture Action Plan builds on previous success while being conscious that post-Covid-19, the world has changed. Tomorrow's marketplace will present new challenges, and tomorrow's consumers will have different and more exacting requirements.

Innovation and commercialisation to deliver the transformation that will be needed takes time. A lot of the horticulture industry's success today was first thought about at least a decade ago. That is why this Action Plan focuses on action and associated investment for the next decade, across five critical outcome areas:

- Grow sustainably
- Optimise value
- Māori are strong in horticulture
- Underpinned by science and knowledge
- Nurture people.

This Action Plan will be kept alive and on target via regular review and fine-tuning.

It will only be successful if everyone gets behind it and we all focus on the targets and actions, for the good of the whole industry.

That is our challenge to you.



The Aotearoa Horticulture Action Plan aims to **increase grower returns** and **achieve \$12 billion in revenue** by 2035

INTRODUCTION

The Aotearoa Horticulture Action Plan sets up a framework for collaboration across industry, Māori, research providers and government to ensure alignment, leverage activity and, most of all, achieve progress through a series of united actions to grow Aotearoa New Zealand's horticulture sector sustainably.

We acknowledge that to achieve aspirational aims, we need to have actions in place to address some of the current challenges. These actions will be tracked from the current baseline to drive progress towards solutions across the industry.

The scope of the Action Plan is 'food for people' (fresh and processed). It covers fruit, vegetables and nuts across the whole supply chain, and both domestic and export markets. It excludes forestry, wine, floriculture and 'arable for livestock feed' sectors.



The Aotearoa Horticulture Action Plan sets up a **framework for collaboration**

Background

The Action Plan has evolved from previous work developed by both industry and government, including the 'Horticulture Post-COVID Recovery Strategy' and 'Fit for a Better World'. It reflects feedback provided by a diverse range of stakeholders.

The development of this Action Plan has been overseen by a Governance Group providing diverse representation. Members included Andrew Gibbs (Chair); Nadine Tunley, Horticulture New Zealand; David Hughes, The New Zealand Institute for Plant & Food Research Ltd; Andrew Keaney, Grow the Grower Ltd; Liz Te Amo, Miro; Nick Roskrige, Massey University; Kevin Wilcox, AS Wilcox; Carol Ward, Zespri; Steve Penno and Julie Collins/Alastair Cameron, Ministry for Primary Industries.



How will the Action Plan work?

The Action Plan has three aligned elements:



This document, the strategy element, provides the overarching framework, which sets the outcome areas, priorities and activities needed to reach the targets. All the partners will need to work together if we are to deliver on this strategy.

Next steps

The **annual implementation plan** will set out the actions needed to achieve the targets, which will be tracked, reviewed and updated annually. Underpinning this will be an **investment roadmap**, which will estimate the level of investment needed to enable progress towards the overall target of doubling horticulture revenue to \$12 billion by 2035 prosperously and sustainably.

Governance - who will oversee the Action Plan?

A new Governance Group will be established to oversee the operationalisation of the Action Plan with a representative from each of the four partners (industry, Māori, research providers and government), along with an independent chair. The members of this Governance Group will be confirmed in the first quarter of the work programme.

INDUSTRY AT A GLANCE

Current state



\$6 B

in annual sales



12

horticulture partners
in GIA biosecurity
agreements



40,000+

in regional jobs



5500

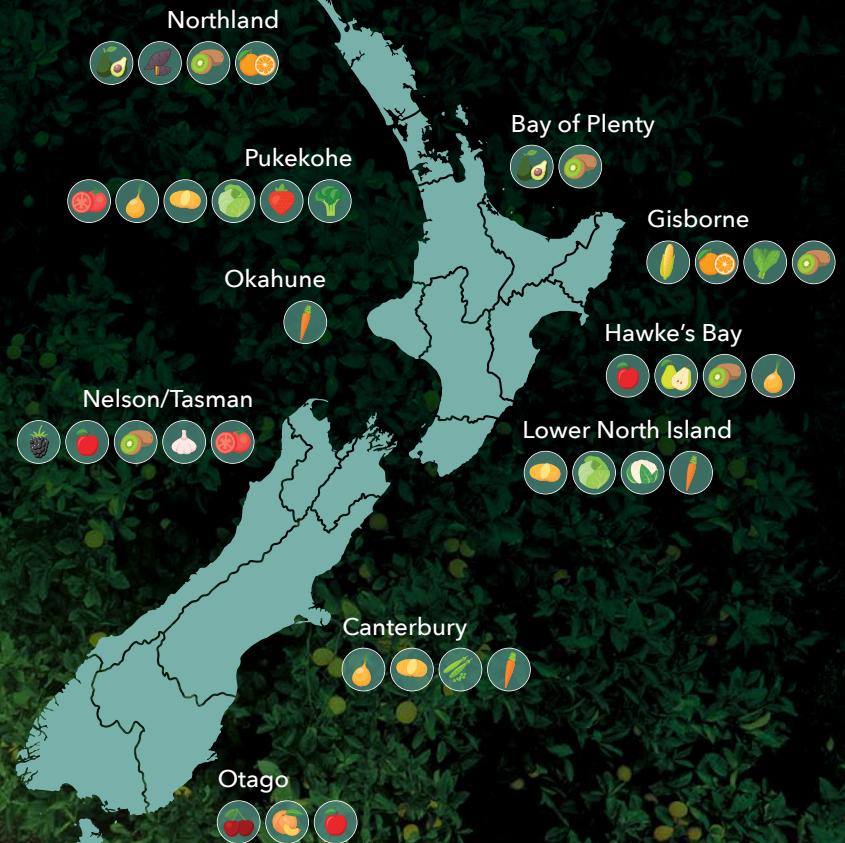
commercial growers



3700

growers use assurance
programmes (NZGAP,
GlobalG.A.P.)

Growing at a glance



CURRENT OPPORTUNITIES AND CHALLENGES

Te Taiao: protecting the quality of the natural environment for future generations is at the heart of New Zealand's horticulture sector. Our growers are innovative, committed and hardworking individuals who take pride in minimising impacts on the environment.

Mātauranga Māori: Māori representation in horticulture has grown in the past decade and this growth is expected to continue, with many iwi and Māori collectives planning expansions. Celebrating Māori culture and its values and embracing indigenous concepts relating to kai and its production is a key opportunity for growth and diversity.

The Aotearoa New Zealand Brand (NZ Inc.): Aotearoa New Zealand benefits from a 'clean and green' reputation with high standards of food safety and guardianship of the land.

Counter seasonality: the summer export season in Aotearoa New Zealand enables our produce to reach the northern hemisphere during winter, allowing us to meet market demand.

Leading cultivars: we have a strong history of developing and introducing new cultivars successfully to market.

Innovation: as a small, diverse and nimble sector, we have the ability to problem-solve and develop solutions-based technology and automation to benefit the wider sector, and package our services to the world.

Growing systems: horticulture has led the world in the way we grow some crops, such as apples, using efficient and effective systems to improve productivity, yield and quality.

OPPORTUNITIES

Climate change: we are facing an environment where new growing techniques, practices and regions are needed in order to maintain domestic food supply and have a viable export industry under a changing climate.

Labour availability: the world is experiencing a shortage of labour. This situation is being compounded by changing attitudes to and expectations about work. Our industry will need to adapt and become more attractive if it is to maintain competitiveness in this environment, and ensure fair pay and conditions for fair work.

Consumer expectations: the consumers of tomorrow will be demanding. They will want to know how their food has been grown, picked, packed and transported. Consumers' perceptions about the sustainability credentials of food products and the growing systems that produce them are key drivers of their purchasing behaviours. Domestic consumers expect reliable supply of produce at an affordable price.

Policy settings: our industry needs policy settings that align and enable growers to do what they do best: invest into, develop, grow and market healthy nutritious food in a sustainable manner.

Access to capital: significant capital is needed to future-proof horticulture businesses. This requires government support and an attractive return.

Enabling a diverse industry: our industry comprises large and small businesses, those targeting export or domestic markets, new growers to inter-generational growers, fruit and vegetable crops and significant regional variation. In many instances regional solutions are required for regional issues.

Economic sustainability: for horticulture businesses to be enduring, they must be financially viable.

CHALLENGES

SECTOR TRANSFORMATION

As climate changes, the horticulture industry must adapt, grow sustainably, and deliver value for consumers and growers through healthy produce. Horticulture is well placed to be part of the solution for Aotearoa New Zealand.

Vision

Aotearoa New Zealand is synonymous with world-leading healthy produce, which is grown with care for people and place, and is enjoyed by consumers around the world.

Goal

Double the farmgate value of horticulture production from \$6 B to \$12 B by 2035, in a way that improves prosperity for our people and protects our environment.

Outcomes



Grow sustainably: Horticulture is in balance with the environment and lessens climate change



Optimise value: Domestic and export market and consumer needs are understood, and the value chain optimised for demand



Māori are strong in horticulture: Partner with Māori to triple participation in high-value* horticulture



Underpinned by science and knowledge: A strong research and development programme and consideration of Mātauranga Māori enables, accelerates and supports horticulture



Nurture people: Horticulture attracts and retains people, and annual and seasonal workforce needs are met

*Value is defined as high monetary return to growers and/or societal value, e.g. domestic food supply.

Sustainable growth pathway

Look after our environment

Maximise value

Optimise productivity

Accelerate innovation

Stronger Māori participation

Great committed people

EXPLANATORY NOTES

What are Tier 1, 2 and 3 crops?

Tier 1: generate close to or over \$1 B annual FOB value (large, sophisticated, world-leading, with strong integrated pest management and proprietary cultivars, etc.)

Tier 2: generate more than \$100 M annual FOB value (have some of the above attributes, but not all)

Tier 3: generate less than \$100 M annual FOB value (emerging and small-scale crops)

The quadruple helix

This strategy builds on collaboration between industry, government, Māori and research. While there are outcome areas dedicated to Māori and science, these two important elements of the quadruple helix are interwoven throughout the strategy.

Why are the key priorities numbered?

Many priorities were identified as the strategy was developed. A survey was conducted of a range of stakeholders to identify priorities that the collective considered the most important. The numbers indicate their priority order under each outcome area.

Why do some key priority areas have other outcome symbols?

Many of the key outcome areas are interlinked. These linkages have been highlighted with the relevant symbol:



Grow sustainably



Optimise value



Māori are strong in horticulture



Underpinned by science and knowledge



Nurture people

A by Māori for Māori approach

Horticulture has long been a part of the Māori economy. It is estimated around five percent of the horticulture land in New Zealand is operated by Māori authorities, organisations and individuals¹. Māori participation and ownership of assets in the horticulture sector is set to grow. Horticulture presents significant opportunities for Māori economic development and as kaitiaki of the land. Māori are kaitiaki of their whenua, leaders in their communities, landowners and business owners. The Action Plan supports Māori-led approaches to enable the growth of the Māori horticulture sector. It will also provide economic and employment opportunities for Māori.

1. www.tpk.govt.nz/en/o-matou-mohiotanga/whenua/maori-in-horticulture-2020-research-report



OUTCOME AREA 1: GROW SUSTAINABLY

Improving sustainability and mitigating climate change

KEY PRIORITY 1.1: ADOPT OPTIMISED AND ENVIRONMENTALLY POSITIVE GROWING PRACTICES



Crops and management systems are optimised for productivity, value, and sustainability

The Challenge: There have been significant efforts to improve sustainability of the sector, but more can be done. For best practice to be embedded across horticulture, science, knowledge, and tools need to be rolled out and accessible to all.

Actions	Outcomes
<ul style="list-style-type: none"> Develop suitable decision-support tools and frameworks for best practice nutrient management by crop. Ensure extension and training programmes are in place to meet regional needs. 	Growers are practising integrated farm planning for managing fresh water, climate change and biodiversity.
<ul style="list-style-type: none"> Scan global optimal crop production systems and review their potential for feasible application in New Zealand. Coordinate research on nutrient demand and losses across all crops and growing systems. 	New Zealand sectors are using the most productive management systems to optimise yield and desirable traits, and minimise environmental effects.
<ul style="list-style-type: none"> Understand waste value streams. 	Horticulture crop and packaging waste is minimised and waste value streams optimised.

KEY PRIORITY 1.2: ENSURE WATER RESILIENCE (AVAILABILITY & STORAGE)



An abundance of well-managed water is available to grow crops in all regions, within the context of Te Mana o te Wai

The Challenge: Water is a critical resource for growing, and water allocation can be difficult with competing priorities and inadequate water storage. With climate change, access to water for horticulture production is likely to become more challenging in some regions.

Actions	Outcomes
<ul style="list-style-type: none"> Model future water needs by region, crop and growing system (including Māori land and isolated rural communities). 	Expected climate change effects on water availability and crops out to 2035 are better understood by region.
<ul style="list-style-type: none"> Map strategic water infrastructure investments for climate change adaptation. 	Co-investment in regional water storage and infrastructure is evidence-based.



KEY PRIORITY 1.3: INCREASE CROP PROTECTION, MANAGEMENT AND BIOSECURITY TOOLS



Globally approved sustainable chemistry and integrated crop protection tools and practices enhance our production, taonga and way of life

The Challenge: Growers in New Zealand currently struggle to access new biological and chemical tools in a timely manner for crop protection and biosecurity use, resulting in limited options, decreased efficacy, and over-reliance on single modes of action.

Actions	Outcomes
<ul style="list-style-type: none"> Identify fundamental science needs for use by regulators to globally harmonise crop protection tools and data. 	<p>New Zealand regulatory systems are globally harmonised so growers have access to the best crop protection tools and practices.</p>
<ul style="list-style-type: none"> Create a prioritised pathway plan (including data and trial needs) to identify new tools for use in New Zealand and support collaborative crop management initiatives. 	<p>The right crop protection tools are used at the right time, with the right method.</p>

KEY PRIORITY 1.4: SUPPORT HORTICULTURE WITH SOUND POLICY



The horticulture sector is enabled to succeed into the future

The Challenge: Clear direction setting and long-term policy are needed from the government if existing horticulture businesses and new entrants are to have the confidence to invest in and grow the sector.

Actions	Outcomes
<ul style="list-style-type: none"> Maximise use of existing industry and global assurance schemes that reduce the compliance burden and achieve outcomes for social, economic, environmental and cultural wellbeing. Develop nationally consistent regulation for some aspects of horticulture through national direction (e.g. national environmental standards and national planning standards). 	<p>Policy settings enable horticulture to thrive and attract new entrants, utilise accepted industry programmes and are well understood by all parties.</p>
<ul style="list-style-type: none"> Set up a programme to increase knowledge of the horticulture sector and policy between government officials and the sector. Identify where policy could enable the horticulture sector, where it is adversely affecting the sector and investigate options for policy review. 	<p>There is a clear understanding of the horticulture sector's challenges and opportunities, with industry and government working together to design enabling policy settings.</p>

KEY PRIORITY 1.5: TRANSITION TO A LOW-EMISSIONS ECONOMY



Reduction plans target investment in key carbon-emitting areas

The Challenge: While it is recognised that some of our growing practices need to change if horticulture is to play its part in reaching climate change targets, there are significant financial and technological barriers holding back the transition to improved systems.

Actions	Outcomes
<ul style="list-style-type: none"> Develop and agree on a horticulture sector roadmap for transition to net zero carbon by 2050. 	The horticulture sector supports the New Zealand economy to achieve climate change targets.
<ul style="list-style-type: none"> Trial mitigations for reducing emissions from crop residues and cultivation. 	There is investment in emission-lowering technologies and research for crops and cultivation.
<ul style="list-style-type: none"> Identify energy-intensive areas of the horticulture value chain and support conversion to systems that reduce greenhouse gas emissions. 	Financial structures support conversion to higher productivity and lower input/emission systems.

KEY PRIORITY 1.6: OPTIMISE LAND-USE ADAPTATION



Maximise appropriate conversion to horticulture crops as part of informed land use and protection of biodiversity

The Challenge: Appropriate use of our finite land resource must be well thought out, rather than piecemeal, if we are to produce food sustainably into the future.

Actions	Outcomes
<ul style="list-style-type: none"> Develop an adaptation blueprint by region and crop to test policy settings and ensure they enable the right crops to be grown in the right places to meet expected future demand (domestic & export). 	Settings allow the right crops to be grown in the right places to maximise profitability, environmental care, food security and climate adaptation and mitigation.





OUTCOME AREA 2: OPTIMISE VALUE

Domestic and export market and consumer needs are understood, data is well utilised, and the value chain is optimised for demand

KEY PRIORITY 2.1: DIVERSIFY MARKET ACCESS AND FACILITATE TRADE



Product groups and businesses are supported to develop market and trade strategies that maximise market returns

The Challenge: It is difficult for smaller product groups and emerging crops to develop thorough export and domestic market plans and meet market protocols due to lack of funding and resourcing, and lengthy timelines. In addition, current market access opportunities are not fully utilised because growers are not getting the premium needed in market to meet the costs involved.

Actions	Outcomes
<ul style="list-style-type: none"> Establish collective resources and expertise (technical and market information) to support market access requests. Build a mechanism that brings industry, Māori, and science together with government to co-design proactive and transparent market access work programme. 	Market access opportunities (both existing and new) are maximised, importing country requirements are well understood, and outcomes with partner countries are fully leveraged and mutually beneficial.
<ul style="list-style-type: none"> Develop and distribute collective market and consumer insight resources by key country and crop/product group to accelerate their approach to market. 	Effective market penetration plans are supported and in place for a diverse range of crops and businesses, targeted to the market and consumers.
<ul style="list-style-type: none"> Māori leverage existing international arrangements, international forums and trade agreements to increase Māori trade. Grow Indigenous to Indigenous information exchange as part of international trade. 	Māori trade is increased through leveraging international arrangements and trade agreements

KEY PRIORITY 2.2: BUILD THE DOMESTIC MARKET



Tell the Aotearoa New Zealand horticulture story to promote increased consumption of fruit and vegetables and support our social licence to grow

The Challenge: Statistics show fruit and vegetable consumption is trending down, and the benefits to New Zealanders of eating locally grown produce are not widely understood or appreciated.

Actions	Outcomes
<ul style="list-style-type: none"> Review consumer drivers and barriers to consuming fruit and vegetables to understand information gaps and map areas for intervention and collaboration. Increase education on the use of health and nutrition claims in horticulture. 	Health and nutrition benefits are known and support an increase in vegetable and fruit consumption.
<ul style="list-style-type: none"> Undertake a New Zealand fruit and vegetable food security review. Support initiatives to ensure Māori food sovereignty. 	New Zealanders have a food-secure future and Aotearoa New Zealand is treated as a key market by growers.
<ul style="list-style-type: none"> Develop partnerships for enhanced promotion and a consumer-centric campaign to promote Aotearoa New Zealand's horticulture story and benefits. 	Consumers understand the Aotearoa New Zealand horticulture story, strongly value the contribution of growers and actively seek out locally grown produce.

KEY PRIORITY 2.3: OPTIMISE PRODUCTION AND VALUE CHAIN INNOVATION



Improve technology and practices for premium supply chain and high-quality produce to market

The Challenge: A lot of New Zealand's horticulture sector is supply chain (commodity) based, which does not maximise competitive advantages to secure premium pricing in market.

Actions	Outcomes
<ul style="list-style-type: none"> Map existing supply chains and infrastructure by region to identify key intervention points for co-investment and potential use of cooperative models for the horticulture sector. 	Supply chain to retail market is optimised through successful collaboration systems that achieve critical volumes, reduce duplication across and within regions, and lower costs and emissions.
<ul style="list-style-type: none"> Use a technology stack approach to review the competitive position of Tier 2 sectors to ensure product quality standards, harvest and post-harvest protocols and techniques are in place. 	Tier 2 crops meet requirements to successfully compete in the market, reducing product loss and improving quality for better consumer outcomes.

KEY PRIORITY 2.4: UTILISE DIGITAL TOOLS AND DATA SHARING



Secure data storage and system integration

The Challenge: Horticulture systems need to have standardised and integrated data to reduce duplication and costs, increase efficiency and optimise use of data and digital tools.

Actions	Outcomes
<ul style="list-style-type: none"> Establish horticulture data sharing standards and policies that enable data integration, whilst protecting data sovereignty. Establish an online data library to share horticulture information. 	Data can be inputted once and used with permission by multiple parties in multiple ways to support informed decision making and increased compliance.





OUTCOME AREA 3: MĀORI ARE STRONG IN HORTICULTURE

Māori participation in high-value horticulture triples by 2035

This outcome area is focused on building Māori-led participation in the sector. Delivering the activities identified across all five outcome areas will support that aspiration.

KEY PRIORITY 3.1: INCREASE MĀORI WORKFORCE PARTICIPATION, TRAINING AND QUALIFICATIONS

A greater proportion of skilled and highly skilled roles are filled by Māori



The Challenge: For horticulture to be an attractive career choice for Māori (including rangatahi), opportunities for building capability and entry into highly skilled roles within the sector must be available and supported.

Actions	Outcomes
<ul style="list-style-type: none"> Link regional education providers with iwi development plans and industry. 	Increased numbers of Māori hold horticulture qualifications.
<ul style="list-style-type: none"> Develop a Māori Horticulture Workforce Transition model that is aligned with the Horticulture Workforce Transition Plan² utilising a by Māori for Māori approach. 	Māori workforce participation in skilled roles is increased nationally.
<ul style="list-style-type: none"> Promote horticulture in kura, wānanga and communities. Support Māori-led apprenticeship and cadet programmes, training, and employment opportunities into higher value roles within horticulture entities. 	Horticulture is seen by Māori as a desirable sector to build a career in and career pathways are widely available.

KEY PRIORITY 3.2: INCREASE MĀORI-OWNED LAND IN HIGH-VALUE HORTICULTURE

Enable conversion of Māori land to cultivation of crops that are suitable for the region and site, along with supporting opportunities for new Māori owned access



The Challenge: There is Māori-owned land suitable for development into high-value horticulture, but it has not yet been utilised for this purpose. For areas planted in horticulture crops on Māori land to significantly increase, more accessible and accurate advisory resources and services are needed to provide confidence to convert.

Actions	Outcomes
<ul style="list-style-type: none"> Develop pathways for Māori to confidently convert their land to horticulture using digital technology and provide in-person guidance for assessing land suitability. Streamline the provision of regional advisory services offered by MPI and other providers so Māori can access advice on a range of land uses and issues from a source that best fits their needs. 	A greater proportion of Māori-owned land is developed into high-value sustainable horticulture for domestic and export markets.
<ul style="list-style-type: none"> Connect to the 'Taiao Ora Tangata Ora³' work from 'Fit for a Better World' to develop pathways that enable the regeneration and wellbeing of Te Taiao (the natural world) in horticulture. 	New Māori-owned and led investment opportunities are created, and market value increased, through strategic policy development that enables Māori to exercise rangatiratanga and kaitiakitanga over their land.

2. www.productivity.govt.nz/assets/Submission-Documents/immigration-settings/DR-147-NZ-Apples-and-Pears-Incorporated-Horticulture-New-Zealand-Incorporated-Attachment-2.pdf

3. https://fitforabetterworld.org.nz/assets/TE_TAILO_REPORT_WEB.pdf

KEY PRIORITY 3.3: ACCESS CAPITAL FOR INVESTMENT IN MĀORI-OWNED HORTICULTURE

Ensure options that support large and small Māori entities to develop and thrive

The Challenge: Māori are uniquely positioned to convert the challenges ahead into opportunities, provided there is access to the financial resources needed to do so.

Actions	Outcomes
<ul style="list-style-type: none"> Support improved Māori access to capital for investment into horticulture. Develop a support platform for post-settlement entities and small land trusts who wish to invest in horticulture. 	<p>Māori are accessing capital for horticulture investment and there are more Māori owned and led successful horticulture businesses.</p>



KEY PRIORITY 3.4: SUPPORT GREATER MĀORI OWNERSHIP AND CONTROL ACROSS THE WHOLE VALUE CHAIN



Increase sustainable business returns and Māori brand stories

The Challenge: Growing Māori presence and influence across the entire supply and value chain (including processing, export, vertical integration and branding) presents an opportunity to increase sustainable returns for Māori entities and economic development.

Actions	Outcomes
<ul style="list-style-type: none"> Communicate Māori-led success stories around indigenous horticulture production that are linked to intergenerational sustainability. Facilitate the development of opportunities created by trade agreements that reflect Māori aspirations. Support Māori to build scale in their horticulture activities for commercial viability and economic development. 	<p>The number and profitability of Māori-owned horticulture businesses have increased, as have Māori horticulture exports.</p>
<ul style="list-style-type: none"> Support the fusion of commercial governance skills and Mātauranga Māori through training and other knowledge-sharing activities to build connections and capability. 	<p>Māori recognise the opportunity horticulture presents and are well connected.</p>

KEY PRIORITY 3.5: DEVELOP AND PROTECT UNIQUE INDIGENOUS HORTICULTURE



Progress the development and protection of unique indigenous horticulture (taonga species) by Māori

The Challenge: It is critical that development and utilisation of taonga species are driven by Māori with appropriate protection and controls.

Actions

- Assess the climate-resilience of taonga horticulture species and design systems to support their development in future environments.
- Utilise the outcomes of the Plant Variety Rights Act (1987) legal frameworks to enable the protection and development of taonga species.
- Develop pathways to support the development of cultivars from taonga species.
- Establish protocols for the use of Māori data and deliver training about appropriate use of information and data.

Outcomes

Unique indigenous horticulture (taonga species) by Māori is growing, including through iwi-led development of indigenous cultivars.

Information about taonga species is being retained, disseminated and used appropriately.





OUTCOME AREA 4: UNDERPINNED BY SCIENCE AND KNOWLEDGE

A strong research and development programme and consideration of Mātauranga Māori⁴ enables, accelerates and supports horticulture

KEY PRIORITY 4.1: CATAPULT TIER 2 CROPS TO A WORLD-LEADING POSITION

Build the scale needed for Tier 2 crops to become dominant in their category globally within 15 years

The Challenge: Many New Zealand crops currently generate around \$100 M in returns per annum but have the potential to become bigger contributors to New Zealand's GDP, like our heavy-lifting Tier 1 crops (\$1 B per annum). Their growth is currently constrained by gaps in their technology tool kits, a low level of investment across the value chain and other factors.

Actions	Outcomes
<ul style="list-style-type: none"> Develop a set of solutions (technology stack) for each Tier 2 crop to build the scale needed. Develop an appropriate investment mechanism to support this approach. Establish suitable governance structures, intellectual property arrangements and collaborations to enable the development of Tier 2 crops. 	<p>Tier 2 crops have a pathway to sustainable growth (including investment and integration of activities), increasing their global footprint, category dominance and returns.</p>



KEY PRIORITY 4.2: OPTIMISE USE OF AGRITECH ACROSS NEW ZEALAND'S HORTICULTURE SECTOR

Have access to suitable technology and tools to improve consistent and sustainable practices, reduce costs and add value

The Challenge: Production systems for some New Zealand horticulture crops would benefit from increased investment in and access to leading-edge technologies. These include automation, artificial intelligence and sensing technologies that will improve the sustainability and productivity of food systems.

Actions	Outcomes
<ul style="list-style-type: none"> Work with local and international technology organisations to build a strong agritech sector. 	<p>The agritech sector is collaborating with New Zealand's horticulture sector to increase access to technologies and tools that improve efficiency and support decision making.</p>
<ul style="list-style-type: none"> Support the attraction, training and retention of specialised staff with innovation expertise across key government agencies. Align policy settings, incentives and government support to encourage investment in and use of agritech and automation. 	<p>Policy settings are enabling the development and early adoption of new and emerging production technologies and tools.</p>



4. Utilising Mātauranga Māori and conventional science to enable better te taiao outcomes for whenua (healthy lands and soils), wai (thriving waterways), āhurangi (climate resilience and zero carbon), koiora (people and animal wellbeing) is covered across all five outcome areas.

KEY PRIORITY 4.3: BREED CULTIVARS THAT MEET FUTURE GROWING NEEDS



Develop high value and disease-resistant New Zealand proprietary cultivars to build resilience into New Zealand’s food system and meet overseas needs, whilst protecting intellectual property

The Challenge: Lack of access to germplasm to accelerate New Zealand breeding programmes constrains the pace of cultivar development. Opportunities exist to capitalise on new and emerging technologies to fast-track cultivar generation, and support Māori to explore high value uses of taonga species.

Actions	Outcomes
<ul style="list-style-type: none"> Ensure a robust, timely and cost-effective germplasm import pathway. 	Improved access to high quality, pest-free germplasm material imported into New Zealand has increased confidence to invest in breeding programmes.
<ul style="list-style-type: none"> Review the current landscape for cultivar development and identify opportunities for new programmes or collaborations with international programmes to fill gaps. Lead formal discussion on the role of advanced breeding techniques (e.g. gene technologies) to speed innovation. 	Genetic material is being leveraged for maximum global value.
<ul style="list-style-type: none"> Transition cultivars to new production systems, such as vertical farming/urban farming production platforms. 	New Zealand’s existing cultivars grown in new production platforms are meeting global demand.

KEY PRIORITY 4.4: SECURE NEW ZEALAND’S FUTURE GLOBAL COMPETITIVE POSITION FOR TIER 1 CROPS



Ensure that New Zealand leads in new technology and development domains for Tier 1 crops

The Challenge: New Zealand growers of Tier 1 crops need tools, technologies and knowledge to accelerate their performance even further and differentiate their products in increasingly demanding global markets.

Actions	Outcomes
<ul style="list-style-type: none"> Identify next horizon technology and innovation priorities for Tier 1 crops. 	Areas for technology development have been identified, roadmaps constructed, and investment secured to position Tier 1 crops for global success.
<ul style="list-style-type: none"> Map the process for qualifying relevant stand-out marketable attributes (e.g. nutritional, sustainability claims), including examples of requirements, typical costs and regulatory pathways. 	Stand-out attributes are differentiating Tier 1 crops in global markets.
<ul style="list-style-type: none"> Create digital twins (from individual plants to area levels, e.g. digital orchards) to allow rapid <i>in silico</i> experimentation and the development of artificial intelligence management tools. 	Emerging digital technologies have been applied to accelerate innovation in Tier 1 crops.

KEY PRIORITY 4.5: SUPPORT THE RAPID AND EFFECTIVE ESTABLISHMENT OF TIER 3 CROPS



Develop programmes to accelerate the performance and scale of Tier 3 crops at a regional level

The Challenge: There is considerable potential for the development of Tier 3 crops that currently generate less than \$100 M in export returns per annum, but that can make a significant contribution to regional growth and development. Coordinating and promoting early-stage crops in the regions will lift economic activity and support community resilience.

Actions

- Design, fund and establish programmes to accelerate opportunities and address challenges for Tier 3 crops.

Outcomes

Regional programmes are accelerating the development of Tier 3 crops.





OUTCOME AREA 5: NURTURE PEOPLE

Horticulture attracts, retains and grows great people

KEY PRIORITY 5.1: ESTABLISH A COORDINATED CAPABILITY FRAMEWORK FOR HORTICULTURE ACROSS AOTEAROA NEW ZEALAND



Develop plans to attract and retain great people and build our workforce

The Challenge: Horticulture is currently facing a major labour shortage. A coordinated and collaborative approach across the food and fibre sector is needed to ensure we attract and retain great people now and into the future.

Actions	Outcomes
<ul style="list-style-type: none"> Create a workforce transition plan that delivers on seasonal, permanent, regional, and national workforce needs, and increases Māori participation in highly skilled horticulture roles. Integrate a school and tertiary horticulture programme pipeline within the New Zealand education system. 	Horticulture attracts, retains and grows great people through attractive working conditions, accessible opportunities for all and training that meets people's needs.
<ul style="list-style-type: none"> Enable strong collaboration between sectors, regions and industries to contribute to a permanent workforce. Actively promote horticulture as a career choice and ensure regional industry training needs are well understood and communicated to all stakeholders. 	A higher proportion of permanent workers are utilised - supported by automation.

KEY PRIORITY 5.2: ENABLE RIGHT PERSON, RIGHT PLACE

Establish policy settings and legislation to meet labour needs

The Challenge: There is a need to ensure current policy settings and employment legislation move to a longer term focus to enable the industry to progress and plan for the future with certainty and give investors confidence in the policy settings.

Actions	Outcomes
<ul style="list-style-type: none"> Create a descriptive and enduring horticulture policy work programme with timelines and realistic deliverables. Build suitable flexibility into policy and legislation to provide workers with more options for full employment in their region and enable people to work across industry. 	Government understands horticulture's diverse needs and prioritises policy that builds confidence in the stability of the current and future workforce and enables people to thrive.
<ul style="list-style-type: none"> Review the Recognised Seasonal Employer scheme with a long-term lens to address any issues and provide certainty of settings for this vital programme. 	The Recognised Seasonal Employer scheme is fit for purpose and beneficial for all involved.
<ul style="list-style-type: none"> Start a targeted and ongoing campaign to promote New Zealand horticulture jobs for holiday visa applicants, and enable seasonal visas for counter-seasonal work options. 	Employment options are enabled for seasonal peak management and counter-seasonal work.

KEY PRIORITY 5.3: BUILD A RESPONSIBLE AND ATTRACTIVE INDUSTRY

Horticulture is an ethical industry that people want to be part of

The Challenge: If the horticulture sector is to attract and retain the workforce it needs, the sector must demonstrate it is a good employer and a fulfilling, rewarding career choice.

Actions	Outcomes
<ul style="list-style-type: none"> Promote social practice initiatives in markets and embed these into horticulture business practices. 	Horticulture is an attractive and ethical industry with fair pay conditions, accessible opportunities and an excellent culture in which individuals thrive.
<ul style="list-style-type: none"> Ensure resilience support tools are working, utilised and accessible where needed. 	Support for growers is available to reduce stresses associated with horticulture businesses.



KEY PRIORITY 5.4: SUPPORT DIVERSITY AND DEVELOPMENT



The diverse ethnicities, backgrounds and aspirations of those in horticulture are welcomed and fostered

The Challenge: The current makeup of horticulture's grower and workforce community is very diverse, which is a significant strength of the sector. This diversity needs to be fostered, celebrated and enabled in all aspects of the sector - from the field to the boardroom.

Actions	Outcomes
<ul style="list-style-type: none"> Provide opportunities for those in the sector to meet with, learn from, and celebrate each other - diverse cultures; young with old; incorporating Mātauranga Māori alongside conventional science. 	Horticulture attracts and celebrates a diverse workforce with a varied skill set.
<ul style="list-style-type: none"> Support leaders with a strong programme of mentoring and development. Provide career paths for future generations /rangatahi. 	Ongoing development of our leaders.
<ul style="list-style-type: none"> Ensure that legal and financial planning assistance for succession planning is available. 	Businesses are supported to stay in horticulture where appropriate and to move out when it is not right for them.

ALIGNMENT OF THE STRATEGY

Alignment with the 'Fit for a Better World' roadmap



Productivity | Whaihua

Target: Adding **\$44 B** in export earnings over the next decade through a focus on creating value.

Outcome area 1

- 1.4: Support horticulture with sound policy
- 1.6: Optimise land-use adaptation

Outcome area 2

- 2.1: Diversify market access and facilitate trade
- 2.3: Optimise production and value chain innovation

Outcome area 3

- 3.2: Increase Māori-owned land in high-value horticulture
- 3.3: Access capital for investment in Māori-owned horticulture

Outcome area 4

- 4.1: Catapult Tier 2 crops to a world-leading position
- 4.4: Secure New Zealand's future global competitive position for Tier 1 crops
- 4.5: Support the rapid and effective establishment of Tier 3 crops



Sustainability | Kaunkeke Tauwhiro

Target: Reducing biogenic methane emissions to **24-47 percent** below 2017 levels by 2050 and 10 percent below by 2030. Plus, restoring New Zealand's freshwater environments to a healthy state within a generation.

Outcome area 1

- 1.1: Adopt optimised and environmentally positive growing practices
- 1.2: Ensure water resilience (availability and storage)
- 1.3: Increase crop protection, management and biosecurity tools
- 1.5: Transition to a low-emissions economy

Outcome area 3

- 3.5: Develop and protect unique indigenous horticulture

Outcome area 4

- 4.2: Optimise use of agritech across New Zealand's horticulture sector
- 4.3: Breed cultivars that meet future growing needs



Inclusivity | Whakaurutia

Target: Employing **10 percent** more New Zealanders by 2030, and 10,000 more New Zealanders in the food and fibre sector workforce over the next four years.

Outcome area 2

- 2.2: Build the domestic market
- 2.4: Utilise digital tools and data sharing

Outcome area 3

- 3.1: Increase Māori workforce participation, training and qualifications
- 3.4: Support greater Māori ownership and control of across the whole value chain

Outcome area 5

- 5.1: Establish a coordinated capability framework for horticulture across Aotearoa New Zealand
- 5.2: Enable right person, right place
- 5.3: Build a responsible and attractive industry
- 5.4: Support diversity and development

Alignment with the United Nations Sustainable Development Goals

Aspects of the Action Plan – strategy align with 10 of the 17 United Nations Sustainable Development Goals.



End hunger, achieve food security and improved nutrition and promote sustainable agriculture.



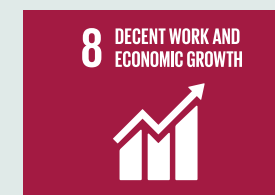
Ensure healthy lives and promote well-being for all at all ages.



Ensure availability and sustainable management of water and sanitation for all.



Ensure access to affordable, reliable, sustainable and modern energy for all.



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.



Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.



Make cities and human settlements inclusive, safe, resilient and sustainable.



Ensure sustainable consumption and production patterns.



Take urgent action to combat climate change and its impacts.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably managed forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

