AUSTRALIAN-GROWN

HORTICULTURE SUSTAINABILITY FRAMEWORK

Nourish & Nurture

Healthy, nutritious food
Greenlife
Safe, traceable, quality

People & Enterprise

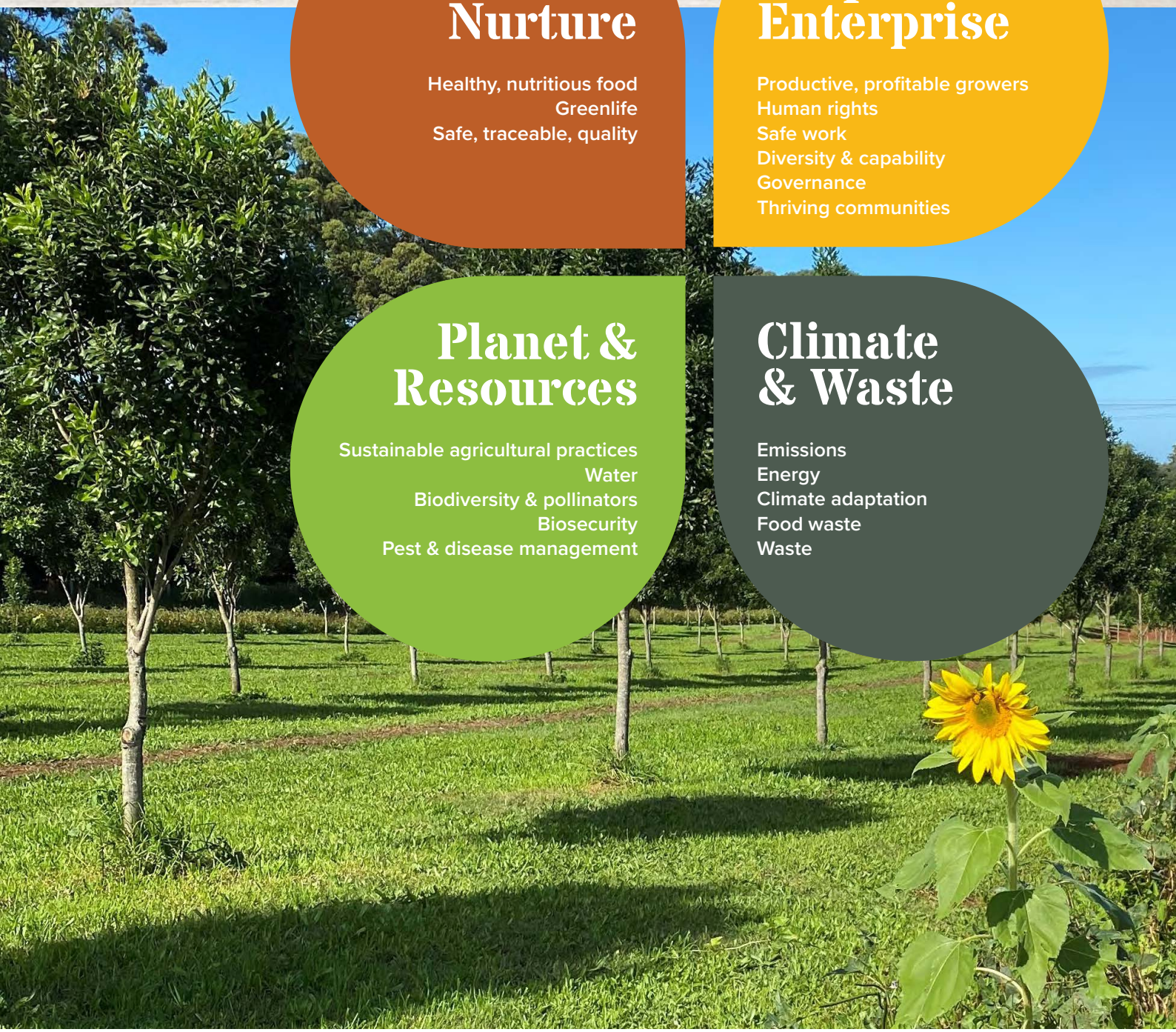
Productive, profitable growers
Human rights
Safe work
Diversity & capability
Governance
Thriving communities

Planet & Resources

Sustainable agricultural practices
Water
Biodiversity & pollinators
Biosecurity
Pest & disease management

Climate & Waste

Emissions
Energy
Climate adaptation
Food waste
Waste



2023/24

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The National Farmers' Federation Horticulture Council and industry bodies representing horticulturalists across the country support as a living document the Australian-grown Horticulture Sustainability Framework, including its scope, goals, and indicators.

Hort Innovation resourced the development of the framework as a whole-of-horticulture project (HA19001 / HA21003) from Australian Government contributions. Hort Innovation is a not-for-profit, grower-owned company that delivers research, development and marketing activities on behalf of Australian growers.

A sustainable horticulture sector is vibrant and prosperous, produces food to nourish and plants to nurture people and communities worldwide, provides fulfilling employment and protects our environment now and for future generations.

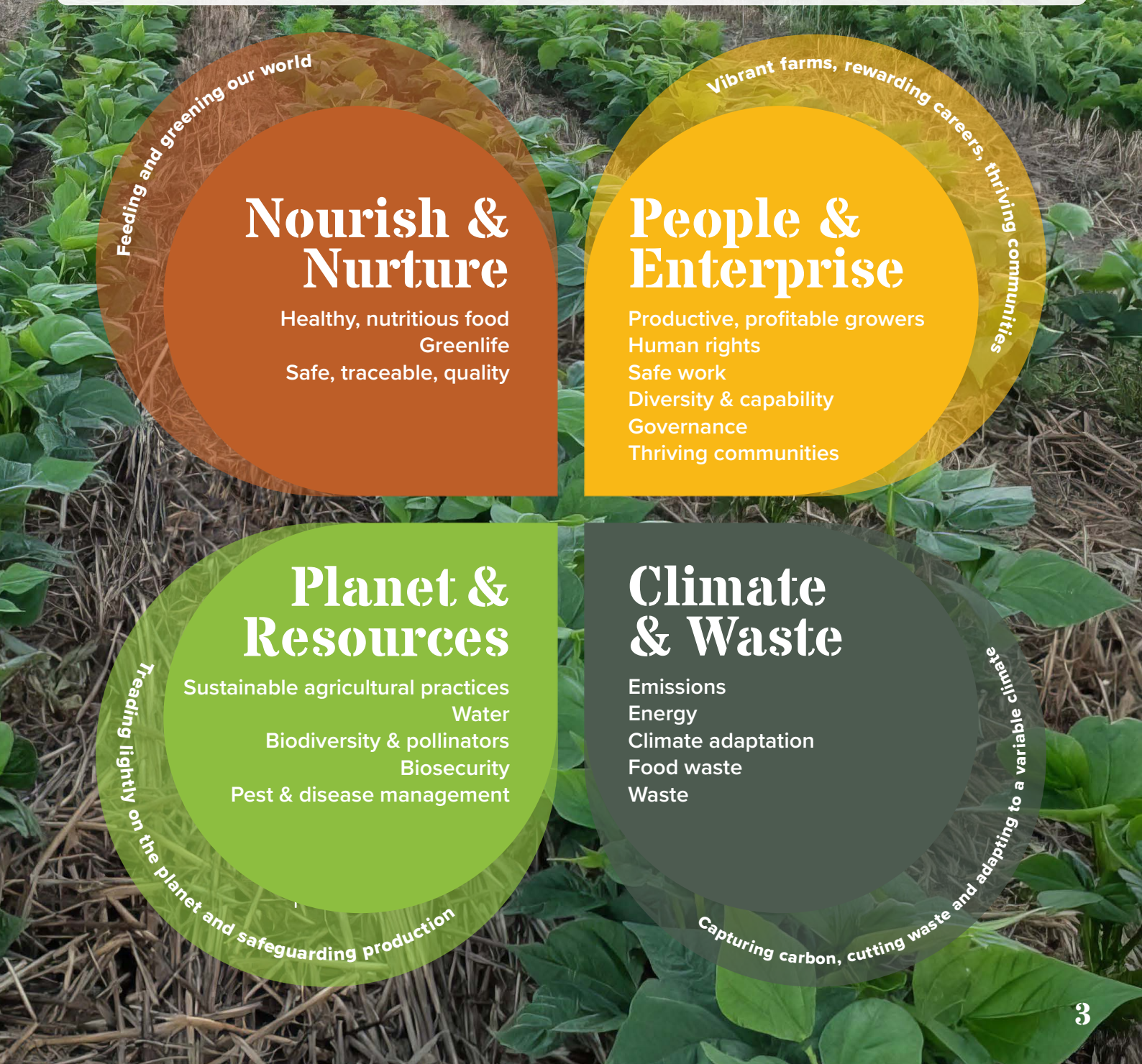
National Farmer's Federation Horticulture Council 2021

Photo: Mulgowie Farming Company
Cover photo: Australian Macadamia Society

A sustainability framework for Australian-grown horticulture

People, natural resources, communities and thriving businesses are core to the sustainability of Australian-grown horticulture. Horticulture's many industries produce fruits, vegetables, nuts and greenlife that are essential for the health and wellbeing of people, communities and landscapes.

Hort Innovation has worked with Australian horticulture's industries and stakeholders to develop this framework. It is a process for understanding and measuring the many elements of sustainability of Australian-grown horticultural production and setting goals for the future. Initially launched in 2021, this 2023 revision incorporates industry and supply chain feedback and aligns with emerging policy and market drivers for sustainability measures and data.



Australian-grown horticulture

Horticulture is a highly diverse and rapidly growing sector.

Some 40 horticultural industries operate in a range of climatic zones and landscapes to produce food to nourish and greenlife plants to nurture Australian and worldwide communities. Sustainability is core to these enterprises. People and the natural environment are integral to a thriving Australian horticulture sector.

IN THE 2021-22 YEAR ...

12,000

HORTICULTURAL FARMS AND NURSERIES

EMPLOYED A MONTHLY AVERAGE OF

116,900

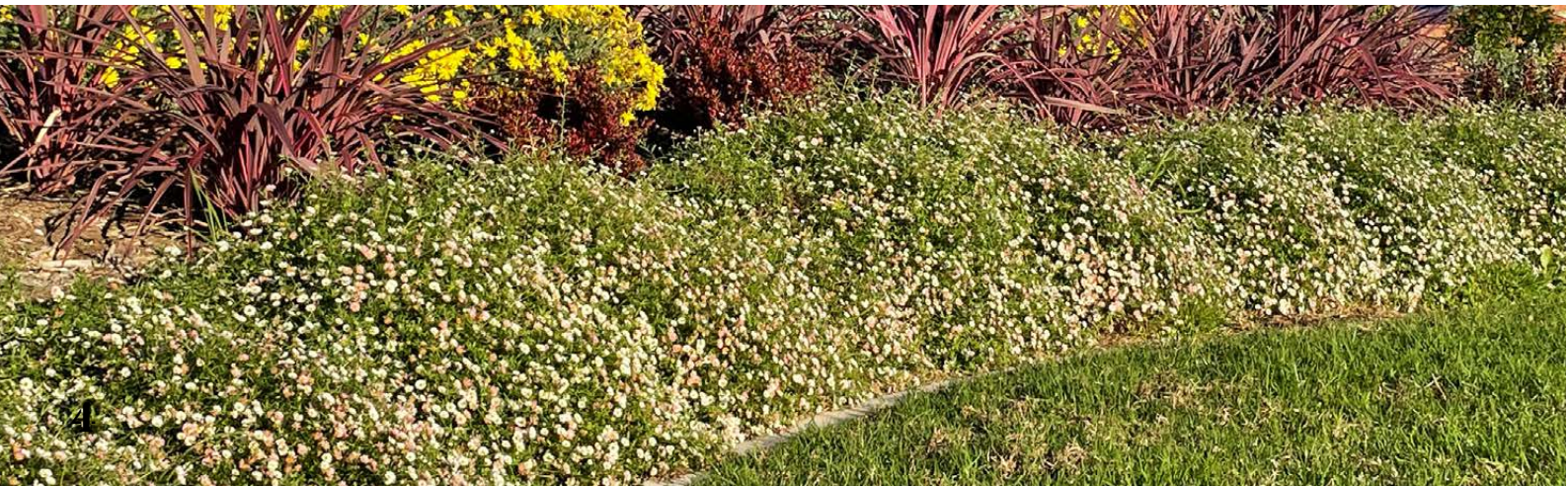
PEOPLE

PRODUCING

$15.6 BILLION

WHOLESALE VALUE OF PRODUCE

Australian Horticulture Statistics Handbook 2021/22 and ABARES Labour Use in Agriculture 2021-22



Each year, Australian growers produce:

2.5
MILLION TONNES
FRUIT

3.7
MILLION TONNES
VEGETABLES & MUSHROOMS

0.1
MILLION TONNES
OLIVES & DRIED FRUIT

2.1
BILLION UNITS
NURSERY PLANTS

0.29
MILLION TONNES
NUTS

$314
MILLION
CUT FLOWERS

39
MILLION
SQ METRES OF TURF

What matters to Australian horticulture's stakeholders?

The sustainability topics that influence the decisions of people interested in Australian horticulture were identified through a materiality assessment in 2020. This was revisited to consider recent developments in policies and corporate and investor sustainability commitments.

2020 MATERIALITY ASSESSMENT

The Hort Innovation report "*What is important to Australian horticulture's stakeholders?*" published findings of the May 2020 materiality assessment.

Guided by the GRI standards and a modified AccountAbility test, it reviewed published plans and sustainability goals of major customers, industry groups and investors, industry information and strategic plans, industry programs such as EcoHort, Hort360, EnviroVeg, Banana BMP, Horticulture for Tomorrow, Fair Farms, research reports, government policies and the UN SDGs.

Interviews with industry bodies, researchers, key supply chain stakeholders, peer review and a reference group refined a list of potential topics. Over 600 people responded to a survey to rank how significant each of those topics were to their decisions about horticulture.

2023 MATERIALITY UPDATE

Over the past two years the global drive towards sustainability evolved rapidly. To keep this framework relevant, in 2022 new international sustainability policies, major customer commitments and data and reporting systems relevant to Australian horticulture were reviewed and key stakeholders were asked how important they considered each topic in the new Global Reporting Initiative Sector Standard for Agriculture, Aquaculture and Fishing was for Australian horticulture.

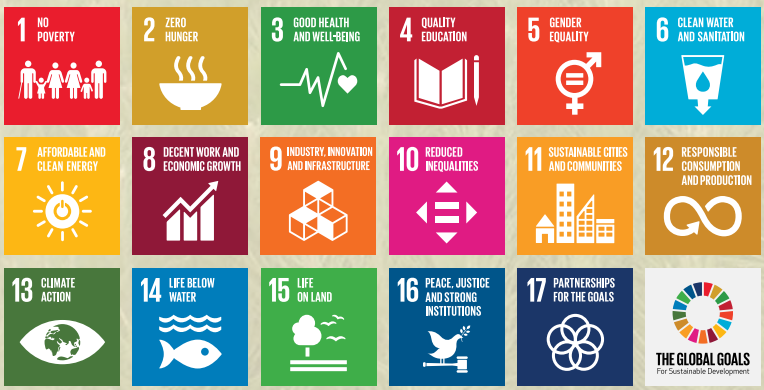
This research found that the sustainability goals developed in 2021 remain relevant to stakeholders' emerging needs, though the relative priority of some topics has changed. Horticulture's customers and financiers are looking for evidence and data from their supply chain on emissions, pesticide use, biodiversity and deforestation, human rights, diversity and indigenous engagement.

Elements of the sustainability framework have been regrouped to align with this. Diversity, grower health and wellbeing and indigenous engagement are flagged for further consideration by industry of how these may be considered across horticulture's industry groups and the many individual businesses that make up the sector. Supporting vibrant, thriving horticultural producers was of high importance and some concern to stakeholders.

Further findings are gathered in the report: *Materiality Update: Emerging market and policy drivers for sustainability and data relevant to Australian horticulture* (Hort Innovation April 2023).

THE GLOBAL GOALS
For Sustainable Development

In 2015 the United Nations' set out 17 ***Sustainable Development Goals*** (SDGs) to 'promote prosperity while protecting the planet'. Most targets are aimed to be achieved by 2030. The SDGs have been widely adopted by governments, industry and the private sector in reporting on sustainability objectives and achievements. Australia reports progress toward the SDGs 2030 targets in ***SDG Transforming Australia***. The details of the SDGs were considered in developing the horticulture goals.



Materiality across horticulture's supply chain and influences

		Significance to Australian horticulture's supply chain stakeholders						
	● Very Significant ● Significant	Growers & industry	Food processing companies	Retailers and restaurant chains	Plant nurseries and lifestyle stores	Investors & finance	Recent policy developments	SUSTAINABLE DEVELOPMENT GOALS
Nourish & Nurture	Healthy, nutritious food	●	●	●			●	2
	Greenlife	●			●		●	11, 13
	Safe, Traceable, quality	●	●	●	●	●	●	2
People & Enterprise	Productive, profitable growers	●		●		●	●	2, 4, 8, 9, 12
	Human rights	●	●	●	●		●	8
	Safe work	●	●	●	●	●		8
	Diversity & capability	●	●	●			●	5
	Governance	●	●	●	●	●	●	16
	Thriving communities	●	●	●	●		●	2, 8, 11, 16
Planet & Resources	Sustainable agricultural practices	●	●	●		●	●	2, 6, 11, 12, 14
	Water	●	●	●		●	●	6, 8
	Biodiversity & pollinators	●	●	●	●	●	●	2, 15
	Pest & disease management	●	●	●			●	12
	Biosecurity	●		●			●	15
Climate & Waste	Emissions	●	●	●		●	●	13
	Energy	●	●	●		●	●	7
	Climate adaptation	●	●	●	●	●	●	2, 9, 13
	Food waste	●	●	●			●	12
	Waste	●	●	●	●		●	12

Assured safe, ethical, green

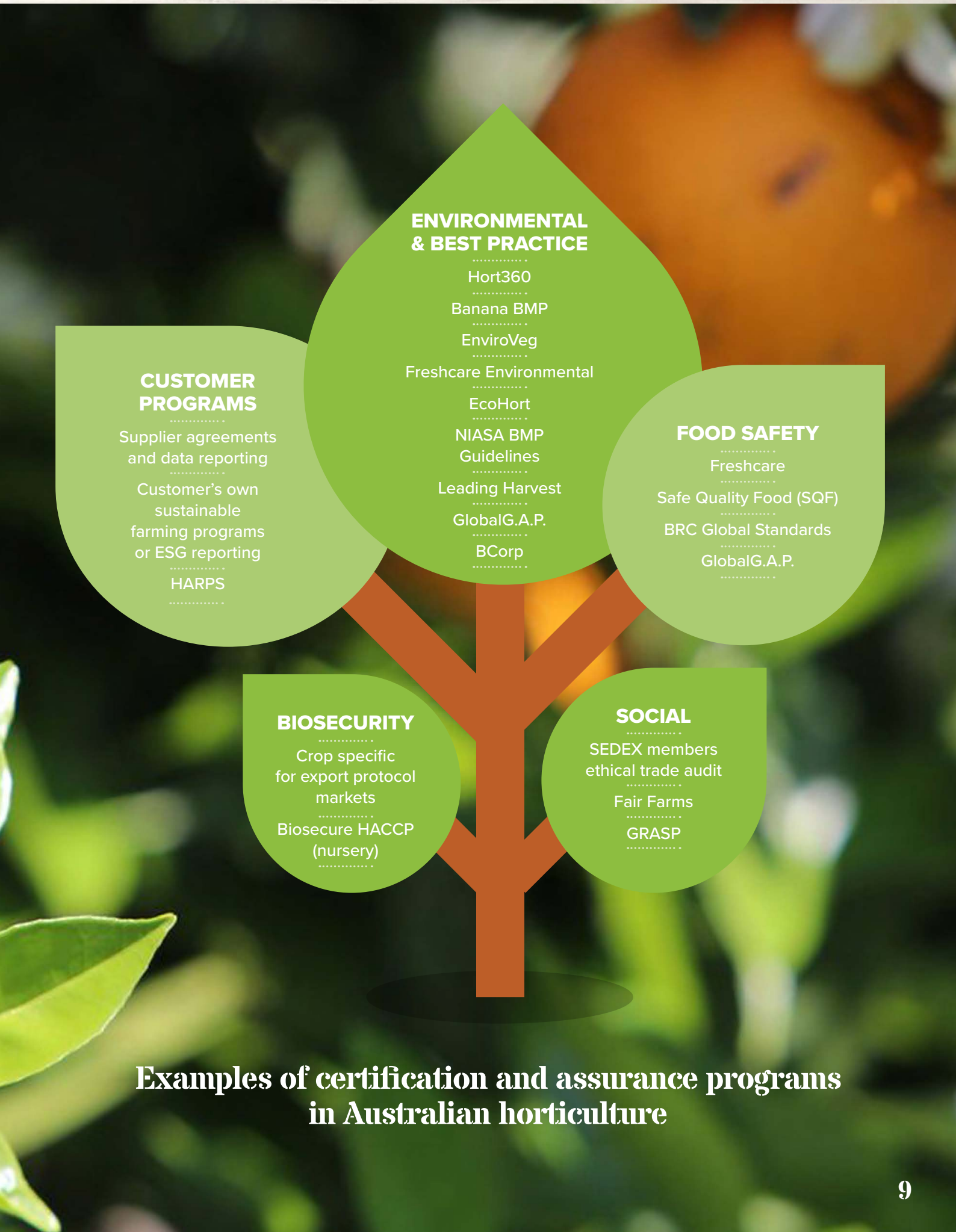
Horticultural producers participate in a wide array of best management practice, certification, self-assessment, record keeping, reporting and assurance processes.

Each year an individual farm may be audited separately for different purposes including food safety, social responsibility, environmental management, export market biosecurity certification and interstate market biosecurity certification.

Depending on market requirements, growers may use programs developed specifically for Australian horticultural industries through to global platforms. Some farms have developed their own systems for sustainability reporting, emissions measurement, workplace safety and diversity and other topics important to them and their partners.

Assurance costs such as auditing fees, produce testing, water analyses and staff time are generally paid by the individual grower and can add up to several thousand dollars per year. Although farms may opt out of some certifications (and markets) if the cost of compliance outweighs the returns, they will often continue their own internal systems.

Photo: Rabbit Hop Films

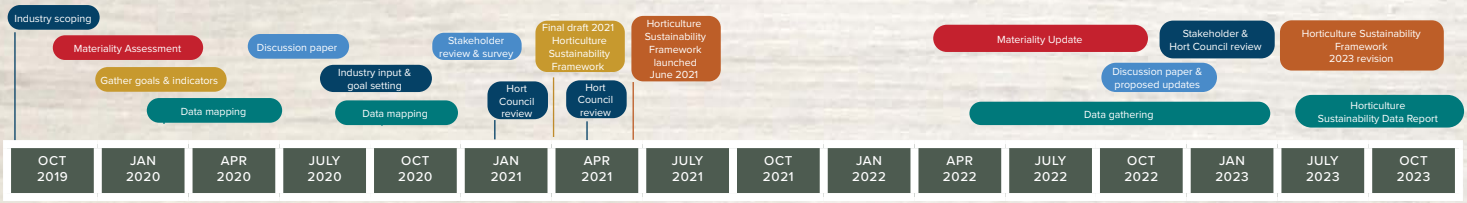


Examples of certification and assurance programs in Australian horticulture

Developing the sustainability framework and 2023 revision

The first Australian-grown Horticulture Sustainability Framework was launched by Hort Innovation and the NFF Horticulture Council in June 2021. Topics important for horticulture were identified initially from the materiality assessment then together with individual industries these topics were refined and the goals and indicators developed. The research was conducted from October 2019 to April 2021 with multiple points for input from horticultural industries and their stakeholders.

Sustainability priorities, commitments and data needs of key supply chain companies, customers and investors evolved substantially over the past two years and new sustainability policies have emerged internationally. These changes and feedback from industry led to this 2023 revision.



WHY A SUSTAINABILITY FRAMEWORK FOR HORTICULTURE?

In the globalised supply chain, consumers are showing an increasing interest in understanding more about where their food and greenlife products come from and how they are produced. Companies in horticulture's supply chain and their shareholders, markets and investors are seeking evidence of high standards of product safety, workplace ethics and environmental care in order to report on their own sustainability commitments. For example, companies moving to report 'scope 3' emissions, modern slavery risk and related areas are looking more closely at their suppliers.

Hort Innovation's Strategy 2019-2023 committed to developing a sustainability framework for Australian horticulture, to help the sector proactively manage emerging issues now, and in the future and set benchmarks to show progress over time.

HOW CAN THE HORTICULTURE SUSTAINABILITY FRAMEWORK BE USED?

This sustainability framework provides a logical process to review how Australian horticulture is tracking on the sustainability issues that matter to its stakeholders. Australian horticulture, its industries and businesses can use it to:

- Measure and track the sustainability of their production systems
- Work towards safe, ethical and environmentally sustainable production practices
- Find simplified ways to gather or model data on the sustainability metrics of production systems to meet supply chain needs and reduce burden on individual growers
- Work together on common challenges across the sector
- Target research
- Tell their story of sustainable production
- Protect and grow access to investment and finance
- Strengthen relationships and transparency with stakeholders.

Whole-of-horticulture sustainability data and case studies have been gathered for each indicator.

Each horticultural industry will determine how they will use this framework. Some industries have started using the information to develop their own industry approach. Industries may choose to set industry specific targets and timeframes. Hort Innovation has used the sustainability framework in its investment planning processes.

LINK WITH INDUSTRY ASSURANCE PROGRAMS

Industry programs such as Hort360, Banana BMP, EnviroVeg, Freshcare Environmental, EcoHort, Freshcare Food Safety & Quality, Fair Farms and a range of private sector programs support growers through education and/or assurance or certification of elements of sustainability.

The sustainability framework takes a whole of sector research view to gather information from these programs and other data sources to monitor how the industry is tracking and where there may be a need for innovation, research, education or support.

It is an opportunity for horticulture's diverse industries to look collectively at common challenges and areas for possible collaboration.

The framework is not intended as a compliance or certification tool.

Scope

WHOLE OF HORTICULTURE FARMING ENTERPRISES

The scope is all production steps and inputs up to the farm-gate, packhouse or production nursery. This includes the diversity of forms in which horticultural produce may leave a farming enterprise, such as fresh produce, juice, salads, oils, dried produce, living plants and seeds. The supply chain beyond that is an important stakeholder.

The sustainability framework applies across the whole of Australian horticulture (fruits, vegetables, nuts and amenity horticulture). With such a diverse sector, some topics are more significant to some horticultural industries than others.

Sustainability measures are generally reported in the aggregated commodity groupings: fruits, vegetables, nuts and amenity horticulture. In some cases, sustainability measures may be based on production system (annual cropping, tree crops, plantation, protected cropping) or by production zone.

Goals

HORTICULTURE'S SUSTAINABILITY GOALS

Sustainability goals can be used to inform investments, identify opportunities for collaboration, communicate with stakeholders and prioritise key data collection. Goals for sustainable horticulture have been developed for each topic, broad enough to be relevant across the whole-of-horticulture where possible. Individual industries or enterprises may prioritise the goals most important to their production systems and environments or use these as a starting point to develop an industry focussed approach.

Where did these sustainability goals come from? Goals and targets from existing industry sources including each industry's Strategic Investment Plan[1], Hort Innovation strategy[2], Horticulture for Tomorrow[3], the Environmental Assessment of the Vegetable Industry, the United Nations Sustainable Development Goals and other national and global programs were gathered as a starting point for discussions with horticultural industries. The goals were iteratively reviewed and revised through discussions with peak industry bodies, a project reference group and the NFF Horticuture Council.

1 *Strategic Investment Plans* Hort Innovation www.horticulture.com.au
2 Hort Innovation *Strategy 2019-2023* www.horticulture.com.au
3 Horticulture for Tomorrow. Guidelines for Environmental Assurance in Australian Horticulture. http://horticulturefortomorrow.com.au/

Indicators

TRACKING PROGRESS TOWARDS SUSTAINABLE HORTICULTURAL PRODUCTION

Indicators provide a means to measure how horticulture is tracking against each goal and topic.

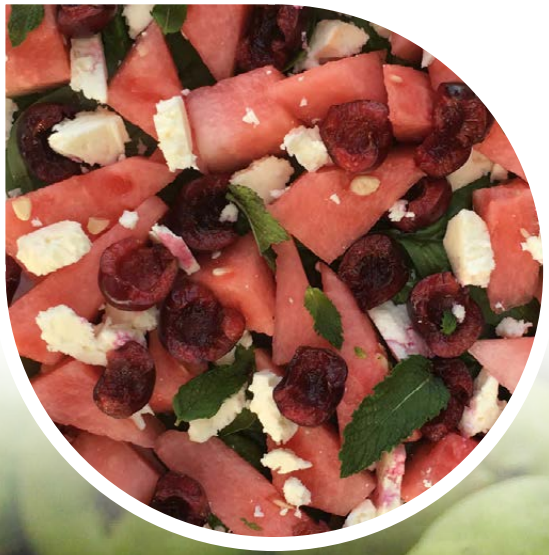
Monitoring will be more achievable and cost effective where the data can be gathered from existing sources such as Australian Bureau of Statistics (ABS) and industry projects and programs. Existing data sets were identified for each topic.

These indicators are a best fit between the goals and the available data sets.

Some individual horticultural industries may adapt the goals or indicators to suit their specific growing systems or may wish to develop specific targets.

Nourish & Nurture

Healthy, nutritious food
Greenlife
Safe, traceable, quality



Feeding and greening our world

Each year, Australia's horticultural producers grow 6 million tonnes of fruits, vegetables and nuts to nourish people around Australia and the world. Our growers produce $3.2 billion of turf and nursery plants to create greenspaces to improve our cities, landscapes and health and wellbeing, cut flowers to brighten our days and pyrethrum to naturally keep pests at bay.

Safety, traceability and quality of these products is a priority. Research and commitment to quality production has packed even more nutritional value into our produce such as sweet corn with higher levels of phytonutrients and anthocyanins for cardiovascular health, strawberries with high folate and extra virgin olive oil and apple varieties with higher levels of polyphenols to lower the risk of heart disease, diabetes and cancer.

	HORTICULTURE GOAL	INDICATOR
HEALTHY NUTRITIOUS FOOD	N.1 Healthier, nourishing diets through increased consumption of readily available, affordable Australian grown fruits, vegetables and nuts	N.1.1 % Australian adults meeting the recommended daily intake of fruits N.1.2 % Australian adults meeting the recommended daily intake of vegetables N.1.3 % Australian adults meeting the recommended daily intake of nuts N.1.4 Nutritional value of horticultural produce N.1.5 Global Food Security Index – measure of affordability, availability, and quality adjusted for natural resources and resilience
GREENLIFE	N.2 Community health and wellbeing is improved by increased greenspace, plants and cut flowers in homes, cities and towns	N.2.1 Proportion of Australian urban environments that is greenspace N.2.2 Measured benefits of plants in homes, cities and towns, including benefits to mental health N.2.3 Consumer attitudes to the benefits of greenlife
SAFE, TRACEABLE, QUALITY	N.3 Australian grown horticultural produce is trusted as safe and traceable	N.3.1 Number of sites certified to a Global Food Safety Initiative recognised scheme or equivalent N.3.2 Number of product recalls due to food contamination per year N.3.3 Assess effectiveness of product traceability systems and industry / consumers / marketer & retailer satisfaction with these systems N.3.4 % Consumers who value Australian horticultural produce as safe
	N.4 Reliable quality, authentic, Australian grown horticultural produce is sought and valued by both international markets and Australian consumers	N.4.1 Consumer perceptions of quality and value of Australian grown produce N.4.2 Industry led programs for quality standards N.4.3 Recognition of and demand for Australia-grown produce in diverse markets

People & Enterprise

Productive, profitable growers
Human rights
Safe work
Diversity & capability
Governance
Thriving communities

Vibrant farms, rewarding careers, thriving communities

People are core to horticultural production. In 2021-22 a monthly average of 116,900 workers were employed by nearly 12,000 farms and nurseries to generate $15.6 billion worth of produce each year. Ethical and fair employment and supply chain arrangements are valued by both workers and producers.

Alongside our many growers and farming families, people are employed in a diverse range of roles from seasonal harvest and pruning labour through to permanent and skilled positions including in farm management, operations management, agronomy, propagation, grafting, packing, marketing, agritourism, logistics, freight, technology and research. Horticulture offers many varied and dynamic career pathways.

Innovation is critical to ensure producers can provide affordable produce. Although labour shortages reduced the number of workers employed in horticulture by 20% in 2021-22 compared to 2019-20, horticultural production was able to grow over the same period.

Horticultural enterprises are located in communities around Australia in urban, peri-urban, regional and remote areas. They are an important part of the landscape and provide major sources of employment. In some small regional communities they can be the primary source of employment.

Horticulture is a significant contributor to Australia's economy. Strong growth over the past decade in domestic and export markets has forecast Australian horticulture to reach a record value of $18.2 billion in 2023-24.

Photo: Rabbit Hop Films

	HORTICULTURE GOAL	INDICATOR
PRODUCTIVE, PROFITABLE GROWERS	P.1 Vibrant, productive, profitable enterprises	P.1.1 Land use productivity (Gross Value of Production /ha) P.1.2 Volume of production P.1.3 Costs of production P.1.4 Labour productivity (Gross Value of Production / Full Time Equivalent) P.1.5 Return on capital P.1.6 Change in farmgate price
	P.2 Maximise the quality and utilisation of all produce	P.2.1 Marketable yield (packout) as % of harvested yield
	P.3 World-leading research, technology and innovation improves practices and drives transformational change	P.3.1 % producers adopting improved management practices and technologies (or adoption of research outcomes) P.3.2 Industry investment in research P.3.3 Economic impact of R&D investment P.3.4 Industry capacity, skills, culture, collaborations and partnerships driving innovation
HUMAN RIGHTS	P.4 Provide ethical, fair and safe work. Creating a culture of pro-actively meeting employment and duty of care obligations and standards of sustainable, ethical employment that mitigate risks of modern slavery	P.4.1 Number of people employed in horticulture P.4.2 Compliance with Australia's high standards of fair work conditions P.4.3 Participation in activities demonstrating commitment to fair and ethical work conditions such as Fair Farms, SEDEX or training
SAFE WORK	P.5 Zero harm	P.5.1 Serious injury claims per million hours worked P.5.2 Number of deaths per year P.5.3 Evidence that WHS procedures and training programs have reduced safety incidents
	Grower health & wellbeing goals and measures to be developed by industry	
DIVERSITY & CAPABILITY	P.6 Attract and retain motivated workers creating rewarding career paths and a sustainable workforce	P.6.1 % producers reporting their business was impacted by difficulty in sourcing skilled workers P.6.2 Permanent staff retention rates P.6.3 Proportion of seasonal workers who continue in horticulture P.6.4 Career pathways available P.6.5 Number of apprentices P.6.6 Education level of horticulture employees P.6.7 Availability of training and education for careers in horticulture
	P.7 Encourage diversity in the horticulture sector	P.7.1 Diversity of participation in industry, leadership roles and training opportunities
	Indigenous engagement goals and measures to be developed by industry	
GOVERNANCE	P.8 Australian horticulture's leadership structures and capacity build the vitality and sustainability of the horticulture sector	P.8.1 Perceived effectiveness of horticulture sector leadership structures and capacity P.8.2 Participation by growers and industry in leadership training opportunities P.8.3 % horticultural businesses with written business plan
THRIVING COMMUNITIES	P.9 Regional, peri-urban and urban communities value the contributions of horticulture	P.9.1 Proportion of employment in local communities that is related to horticultural production P.9.2 Regional impact: direct and indirect contribution to gross regional product P.9.3 Regional impact: direct and indirect contribution to employment P.9.4 The extent of horticulture producers and employees' involvement in local community activities
	P.10 Recognition of horticulture in local government planning in key growing regions	P.10.1 Effectiveness of planning mechanisms to reduce conflict between horticultural production and residential and peri-urban land uses P.10.2 Proportion of industry gross value of production (GVP) grown in significant urban areas (SUAs)
	P.11 Become an economic powerhouse for local communities and the Australian economy	P.11.1 Gross value of production P.11.2 Value of horticultural exports P.11.3 Industry sentiment P.11.4 Resilience to and preparedness for trade risk exposure and market volatility P.11.5 Diversification of income streams

Photo: Tim White

Photos: Australian Horticultural Research

Planet & Resources

Sustainable agricultural practices
Water
Biodiversity & pollinators
Biosecurity
Pest & disease management

Treading lightly on the planet and safeguarding production

Horticultural production is intrinsically linked with its natural environment. Healthy soils, reliable water supplies and pollinators are vital for production.

Horticulture is usually intensive, generating a high value of production from a relatively small land area. It ranges from small farms nestled amongst a diverse range of natural and built environments to larger scale production in regional and remote areas.

Growers work to reduce the footprint of their production systems on the planet through a range of best management practices such as irrigation monitoring and scheduling, water retention and recycling, integrated pest and disease management, nutrient budgeting, cover cropping, improving soil health and protecting downstream environments. Hort360, EnviroVeg, Banana BMP, Freshcare Environmental and EcoHort are examples of sustainable production assurance programs in Australian horticulture.

Australia's island location and strong biosecurity programs are vital to prevent the incursion of new pests and diseases that may impact on crops or on bees that many crops depend on for pollination. Horticultural industries have developed biosecurity plans and work together with Plant Health Australia through the Emergency Plant Pest Response Deed to monitor and respond to biosecurity threats and incursions.

Photo: Rabbit Hop Films

	HORTICULTURE GOAL	INDICATOR
SUSTAINABLE AGRICULTURAL PRACTICE 	R.1 Best practice land management is used in horticultural production	R.1.1 Participation in best practice programs (number of enterprises and hectares of production involved)
	R.2 Soil health and productive capacity is maintained or improved	R.2.1 % horticultural businesses undertaking soil, leaf or fruitlet tests by frequency R.2.2 % farms with organic carbon in topsoil steady or improving R.2.3 Proportion of businesses using management practices to maintain ground cover for horticultural plantings R.2.4 % farms with soil maps and/or descriptions
	R.3 Nutrient applications are matched to crop need	R.3.1 % producers using an informed strategy to match nutrient use to crop needs R.3.2 Nutrient use efficiency R.3.3 Use of best practices to manage manures and composts
	R.4 Movement of soil, nutrients and chemicals into the environment are minimised	R.4.1 Strategies used to minimise contamination of run-off water from container-grown production systems and packing sheds R.4.2 Use of erosion management strategies on drains and drainage areas in high-risk run-off areas such as minimal slope, sealed or grassed or vegetated
WATER  *^ Water supply for extractive use (including irrigation) is managed by governments through regulated allocations and water planning.*	R.5 Reliable, viable access to sustainable water resources	R.5.1 % producers with a water security risk strategy R.5.2 % farms with adequate water for cropped area
	R.6 Responsible and efficient use of allocated water to optimise production per unit of water.^	R.6.1 Irrigation water use efficiency ML/ha R.6.2 Water use efficiency (Yield /ML) R.6.3 Water use productivity (GVP $/ML)
	R.7 Objective measures guide more efficient water use	R.7.1 % growers using soil moisture monitoring R.7.2 % growers scheduling irrigation to measured deficits
	R.8 Increased adoption of water recycling and reuse	R.8.1 Safe and efficient use of water recycling and reuse practices in production R.8.2 Safe and efficient use of water recycling and reuse practices in packing sheds
BIODIVERSITY & POLLINATORS 	R.9 Biodiversity is managed sustainably	R.9.1 % businesses with land set aside for conservation / protection R.9.2 Involvement in activities to encourage biodiversity P.9.3 % producers actively managing feral animals and invasive weeds R.9.4 Proportion of nursery plants sold that are Australian native or can provide biodiversity value
	R.10 Australian horticultural crops have effective pollination and protect pollinator species	R.10.1 Pollination services match demand R.10.2 Strategies used to protect and attract pollinators
PEST & DISEASE MANAGEMENT 	R.11 Responsible management of pests, weeds, diseases and agricultural inputs	R.11.1 Industry capability to effectively manage pests, weeds and diseases R.11.2 Capability, understanding and adoption of integrated pest, disease and weed management (IPDM and IWM) and resistance management strategies
BIOSECURITY 	R.12 Proactively manage biosecurity risks from pest and disease incursions into regions and Australia	R.12.1 % producers having a biosecurity management plan R.12.2 Industry capacity to respond to a biosecurity incursion R.12.3 Biosecurity protocols, technology and strategies for market access

Photo: Costa Group

Climate & Waste

Emissions
Energy
Climate adaptation
Food waste
Waste

Capturing carbon, cutting waste and adapting to a variable climate

Climate change, greenhouse gas emissions reduction and managing climate risk are a driving focus worldwide. Many of horticulture's customers and financiers have committed to reduce emissions through their supply chain.

Emissions from horticultural production are small, with the 2021 national greenhouse accounts reporting that horticulture captured more greenhouse gases than it emitted. The major sources of emissions are from energy, including for coolrooms, tractors, pumps, heating and cooling of glasshouses and packing facilities. Renewable energy is helping to reduce this impact.

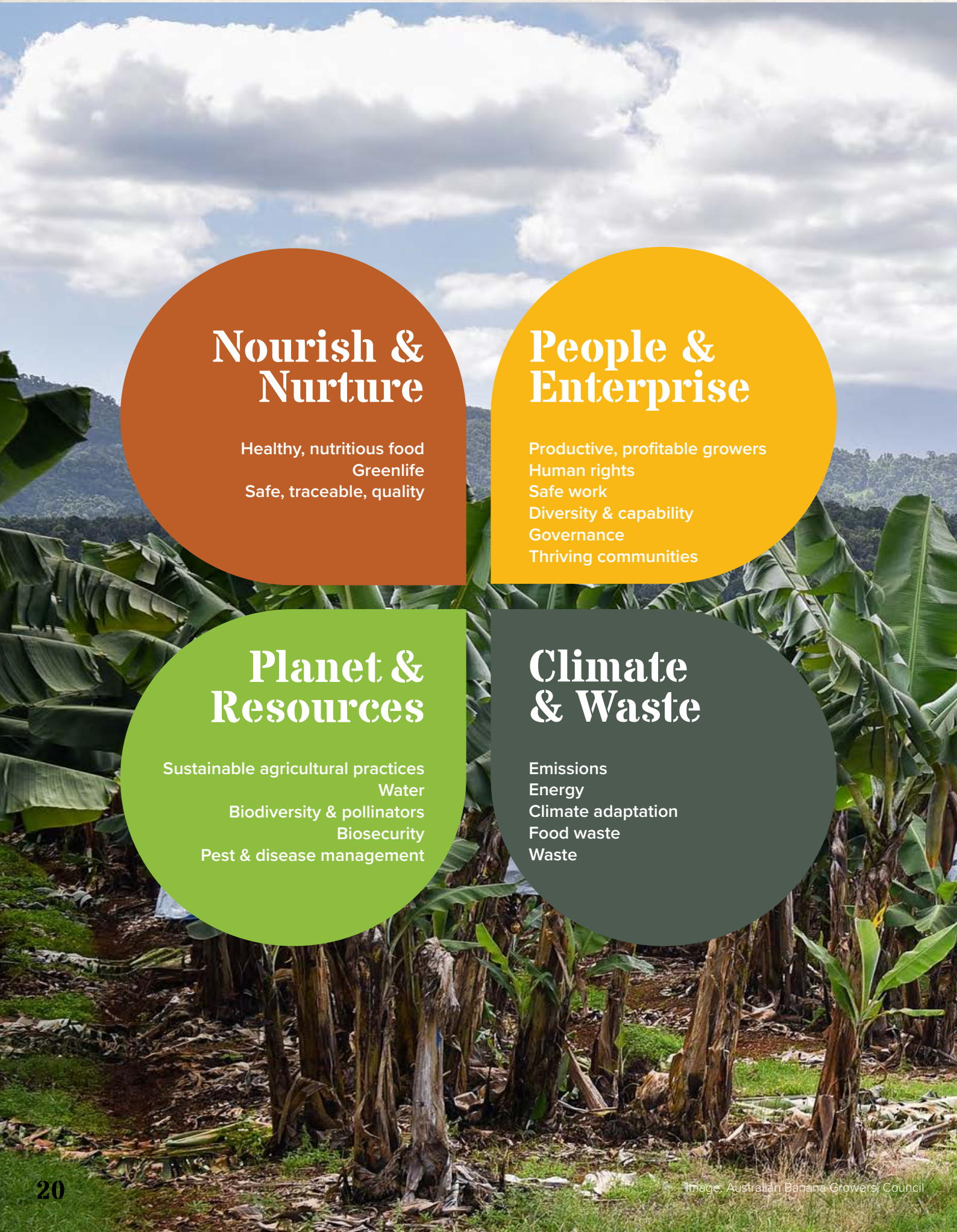
Climatic extremes and natural disasters can have devastating impacts on horticulture. Production systems are adapting to be more resilient in a changing climate. For example, protected cropping infrastructure is reducing weather related risks on over 13,000 ha around Australia.

Greenlife can help to capture carbon, regulate temperature and reduce urban heat effects in cities.

Globally, one-third of the food produced is wasted (on-farm and in the supply chain, from food outlets and in homes). At a farm level, food may be wasted when produce doesn't meet quality specifications or due to oversupply. Whilst producers' first priority is high quality produce into the market, innovations in alternative food products can cut waste by utilising excess or lower grade produce.

Farm waste includes organic wastes (green waste, product loss, sludges), plastics (protective film, piping, irrigation and drainage materials, nets, mesh, bags, twines, ropes, containers, pots and labels), treated timber posts and workshop and machinery waste.

	HORTICULTURE GOAL	INDICATOR
EMISSIONS	W.1 Horticultural plants capture carbon; production systems minimise greenhouse gas emissions	W.1.1 Carbon sequestration of horticultural plantings (CO_{2e}) W.1.2 Agricultural soils: Direct soil emissions - Inorganic fertilisers W.1.3 Greenhouse gas emissions: Agricultural soils - Indirect soil emissions including atmospheric deposition, fertiliser, and nitrogen leaching and run-off fertiliser W.1.4 Greenhouse gas emissions from land use, land use change and forestry; cropland, perennial woody crops W.1.5 Life cycle impact assessment
ENERGY	W.2 Energy is used efficiently, with an increased proportion from renewable sources	W.2.1 Energy use GJ/unit production W.2.2 % Producers who monitor and review electricity and fuel use W.2.3 % farms using practices to improve energy efficiency W.2.4 Share of energy from renewable sources
CLIMATE ADAPTATION	W.3 Australian horticulture understands and manages the risks of climate change and extreme weather variability and builds resilience to natural disasters	W.3.1 % producers with a climate risk assessment and management strategy W.3.2 Availability of financial and insurance products that help build resilience to natural disasters and extreme weather
	W.4 Increased use of horticultural plants and green space cools our cities and mitigates climate extremes	W.4.1 % reduction in urban heat effect through greenlife W.4.2 Contribution of appropriate greenlife to mitigating bushfire hazard in urban environments
FOOD WASTE	W.5 Increase the proportion of produce that meets first grade quality and increase utilisation of lower grade produce	W.5.1 % produce meeting first grade quality standards W.5.2 Volume of potential food waste saved through secondary products W.5.3 New food science solutions to utilise lower grade produce
	W.6 Reduce food waste in the production system	W.6.1 Volume of on farm food waste (tonnes edible produce not entering the supply chain)
WASTE	W.7 Packaging is minimised, recyclable, compostable or reusable	W.7.1 % of horticultural packaging that is recyclable, compostable or reusable W.7.1 Days of shelf-life extension provided by packaging
	W.8 Reduce, reuse or recycle on-farm waste and input supply packaging	W.8.1 % producers with a waste management plan W.8.2 Volume organic farm waste to landfill W.8.3 Volume organic farm waste diverted to composting for reuse W.8.4 Volume inorganic farm waste W.8.5 Regional distribution of reuse and recycling facilities for plastic waste from farms (drip tape, films, bunch bags, input supply packaging etc) W.8.6 Proportion of input supply packaging that is reused, recycled or composted



Nourish & Nurture

Healthy, nutritious food
Greenlife
Safe, traceable, quality

People & Enterprise

Productive, profitable growers
Human rights
Safe work
Diversity & capability
Governance
Thriving communities

Planet & Resources

Sustainable agricultural practices
Water
Biodiversity & pollinators
Biosecurity
Pest & disease management

Climate & Waste

Emissions
Energy
Climate adaptation
Food waste
Waste

Image: Australian Banana Growers' Council

Alignment

The following tables illustrate how Australian horticulture's goals align with the Australian agricultural sustainability framework, global goals and the GRI reporting standard used by many customers. The alignment with horticulture's existing industry led programs is also shown.

Australian-grown Horticulture Sustainability Framework Topics & goals	The Australian Agricultural Sustainability Framework was developed for the National Farmers Federation to communicate the sustainability status and goals of the Australian agricultural sector. These tables map Principles (P) and Criteria (C) from version 4 of the AASF (2022).	The alignment of the horticulture goal to the relevant United Nations Sustainable Development Goal is shown by the relevant icon/s. Also mapped in are the specific SDG target/s it contributes towards.	The Global Reporting Initiative has widely recognised standards for sustainability reporting. These are used by a wide diversity of companies internationally and in Australia and formed the initial starting point for reviewing the significance of topics for horticulture. In 2022, GRI released a sector standard for Agriculture, Aquaculture & Fishing. The standards relevant to agriculture are mapped here. In some cases, elements of the GRI Universal Standards are shown.
Industry led assurance programs Note: growers also participate in other, independent programs as required by customers or financiers. On-going audit and compliance costs are generally borne by the growers. A range of other educational and advisory programs are also provided by industry bodies	**Hort360** Self-assessment tool to benchmark business practices against industry standards. Includes business management, biosecurity, energy and workplace safety. Hort360 Reef Certification is a certification pathway for horticulture growers to demonstrate their environmental stewardship and industry best practice standards in the Great Barrier Reef catchments. Developed and delivered by Growcom.	**EnviroVeg** EnviroVeg is an environmental sustainability self assessment process for vegetable growers. Based on the Hort360 platform, it was tailored specifically for vegetables. Development, extension and training support was provided by AUSVEG with Hort Innovation support.	**Banana BMP** A best management practices self assessment and extension delivery program for Australian banana growers to address water quality concerns in reef catchments. Launched in 2013. Developed and delivered by Australian Banana Growers' Council with support from the Queensland Government through the Reef Water Quality program.	**NIASA BMP** The Nursery Industry Accreditation Scheme, Australia (NIASA) describes best management practices (BMP) for Australia's production nurseries, growing media manufacturers and greenlife markets. It has a risk assessment process and certification pathway to demonstrate environmental stewardship. The guidelines include crop hygiene, crop management, site management, water management, freight, nursery stock specifications (avocado, banana, macadamia, landscape trees) and ethical sourcing. It underpins the Australian Plant Production Standard (APPS).
	Freshcare Environmental An outcomes-based environmental assurance program, developed and tailored for the Australian Horticulture industry. Certification is achieved via independent, third-party annual audits. Freshcare Environmental aligns and provides certification pathways for Hort360, EnviroVeg and Banana BMP.	**Freshcare Food Safety & Quality** Standard FSQ4.2 outlines good agricultural practice (GAP), best management criteria, and specific food safety requirements (HACCP) for the production and packing of fresh produce on-farm. It is benchmarked to the Global Food Safety Initiative (GFSI) and recognised in international markets. Standards are maintained by by Freshcare. Certification is achieved via independent, third-party annual audits.	**Fair Farms** To foster fair and responsible employment practices in Australian horticulture. It provides support and training and a pathway to independent third-party audit and certification recognised by retailers as meeting ethical sourcing policies. Developed and implemented by Growcom.	**EcoHort** An Environmental Management System (EMS) for production nurseries, growing media manufacturers and greenlife markets. It has an independently audited risk assessment and certification pathway to demonstrate environmental stewardship. Developed and delivered by Greenlife Industry Australia.

Nourish & Nurture

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
HEALTHY, NUTRITIOUS FOOD N.1 Healthier, nourishing diets through increased consumption of readily available, affordable Australian grown fruits, vegetables and nuts.	HUMAN HEALTH, SAFETY & WELLBEING P8. Safe agricultural outputs are produced for public consumption. C17. Food produced by the industry is healthy and nutritional.	SDG 2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round. SDG 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.	13.9 FOOD SECURITY People have physical and economic access to sufficient, safe, and nutritious food that is acceptable within a given culture and meets people's dietary needs and food preferences for an active and healthy life. • Describe the effectiveness of actions and programs on food security at local, regional, national, or global levels. • Report partnerships which the organisation is part of that address food security, including engagement with governments. • Describe policies or commitments to address food loss in the supply chain.	
GREENLIFE N.2 Community health and wellbeing is improved by increased greenspace, plants and cut flowers in homes, cities and towns.	n/a	SDG 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities SDG 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	Greenlife contributes to climate adaptation and resilience, but is not identified in GRI's standards.	
SAFE, TRACEABLE, QUALITY N.3 Australian-grown horticultural produce is trusted as safe and traceable. N.4 Reliable quality, authentic, Australian grown horticultural produce is sought and valued by both international markets and Australian consumers.	HUMAN HEALTH, SAFETY & WELLBEING P8. Safe agricultural outputs are produced for public consumption. C16. Food and fibre is produced, packaged and distributed to world-leading standards of safety. C18. Producers practice good antimicrobial stewardship. FAIR TRADING P17. Unconscionable conduct is eliminated from the supply chain via demonstrated transparency and accountability. C41. Product provenance information is readily available (i.e., traceability). C42. Information asymmetry in the supply chain is eliminated where perverse outcomes are a risk.	SDG 2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.	13.10 FOOD SAFETY The handling of food and feed products in a way that prevents food contamination and foodborne illness. 13.23 SUPPLY CHAIN TRACEABILITY The ability to trace the source, origin, or production conditions of raw materials and final products.	FRESHCARE FOOD SAFETY & QUALITY

People & Enterprise

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
PRODUCTIVE, PROFITABLE GROWERS P.1 Vibrant, productive, profitable enterprises. P.2 Maximise the quality and utilisation of all produce. P.3 World-leading research, technology and innovation improves practices and drives transformational change.	LIVELIHOODS P10. Fair access to a decent livelihood is provided within the industry. C22. Profitability and competitiveness are encouraged. C23. A rewarding and enriching work environment is provided. GOOD GOVERNANCE P15. All industry participants behave ethically and lawfully. C36. Fair access to participate equally in markets is ensured.	SDG 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment. SDG2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. SDG 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilisation of genetic resources and associated traditional knowledge, as internationally. SDG 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. SDG 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors. SDG 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services. SDG 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending. SDG 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.	13.21 LIVING INCOME AND LIVING WAGE Describe: • commitments related to providing a living income or paying a living wage. • methodology used for defining living income or living wage at significant locations of operation and report whether this has involved consultation with and participation of local stakeholders, including trade unions and employer organisations. • how sourcing, pricing, and remuneration policies take living income or living wage into account, including how living income is considered when setting product prices. 13.22 ECONOMIC INCLUSION Describe actions taken to: • support the economic inclusion of farmers and fishers, and their communities (eg direct support through investments, partnerships, or training) and the effectiveness of these actions (eg increased yields or productivity, number of farmers or fishers reached, percentage of products sourced from small producers). • identify and adjust the sourcing practices of the organisation that cause or contribute to negative impacts on economic inclusion of farmers and fishers in the supply chain.	HORT360 NIASA BMP

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
HUMAN RIGHTS P.4 Provide ethical, fair and safe work conditions. Creating a culture of pro-actively meeting employment and duty of care obligations and standards of sustainable, ethical employment that mitigate risks of modern slavery. P.5 Attract and retain motivated workers creating rewarding career paths and a sustainable workforce.	LIVELIHOODS P10. Fair access to a decent livelihood is provided within the industry. C22. Profitability and competitiveness are encouraged. C23. A rewarding and enriching work environment is provided.	SDG 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services. SDG 8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms. SDG 8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.	13.14 RIGHTS OF INDIGENOUS PEOPLES 13.15 NON-DISCRIMINATION AND EQUAL OPPORTUNITY 13.16 FORCED OR COMPULSORY LABOUR 13.17 CHILD LABOR 13.18 FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING 13.20 EMPLOYMENT PRACTICES 13.21 LIVING INCOME AND LIVING WAGE 13.22 ECONOMIC INCLUSION Refer to the standards for detail	FAIR FARMS F6.8 Overtime provisions are met under the relevant Award/Agreement, and the business unit demonstrates a clear understanding of their obligations and workers' rights. F8.1 workers' rights, including a copy of the Fair Work Information Statement (FWIS) and the Fair Work My Employment Checklist. F8.1 workplace policies including: - commitment to comply with all legal requirements for fair and safe employment. - general protection rights including Freedom of Association, workplace rights. - commitment to a workplace free of bullying and harassment. - training, managing performance and conduct to others, as relevant to the business. F4.1 Ensure no child labour is used. F4.2 Ensure employment of minors meets all legislative requirements. F4.3 Ensure employment of minors does not interfere with their education, health, development or safety. NIASA BMP – ETHICAL NURSERY STOCK SPECIFICATION
SAFE WORK P.6 Zero harm.	HUMAN HEALTH, SAFETY & WELLBEING P9. Safe working environments are provided for employees. C20. Labour rights are respected and compliance with relevant legislation is demonstrated. C21. Physical health and mental wellbeing are valued and actively supported.	SDG 8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.	13.19 OCCUPATIONAL HEALTH AND SAFETY • Occupational health and safety management system • Hazard identification, risk assessment, and incident investigation. • Occupational health services. • Worker participation, consultation, and communication on occupational health and safety. • Worker training on occupational health and safety. • Promotion of worker health. • Prevention and mitigation of occupational health and safety impacts directly linked by business relationships. • Workers covered by an occupational health and safety management system. • Work-related injuries. • Work-related ill health.	FAIR FARMS F11.1 Maintain and implement appropriate Workplace Health and Safety (WHS) policies and procedures. F11.2 2 Appoint a representative with responsibility for work health and safety. F11.3 Provide and maintain adequate amenities for workers. F11.4 Ensure Personal Protective Equipment (PPE) is used as required. F11.5 Develop emergency procedures and train employees in them. F11.6 Develop and maintain first aid procedures. F11.7 Manage environmental hazards, fatigue and remote work. F12.1 Ensure accommodation for workers is safe. F12.2 Ensure accommodation is freely chosen and meets legal requirements. NIASA BMP – ETHICAL NURSERY STOCK SPECIFICATION

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
DIVERSITY & CAPABILITY P.5 Attract and retain motivated workers creating rewarding career paths and a sustainable workforce.	RIGHTS, EQUITY & DIVERSITY P11. Discrimination is not tolerated in an inclusive Industry. C24. Human rights are respected unequivocally. C25. Workplace diversity is valued and actively supported.	SDG 5.1 End all forms of discrimination against all women and girls everywhere. SDG 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life. SDG8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.	13.14 RIGHTS OF INDIGENOUS PEOPLES 13.15 NON-DISCRIMINATION AND EQUAL OPPORTUNITY Refer to the standards for detail	FAIR FARMS F1.3 Provide a workplace free from abuse, harassment and discrimination The business unit has policies and procedures in place to provide a workplace that is free from all forms of bullying, harassment, abuse or discrimination, including sexual harassment. The policy is communicated to workers. All staff in a management or supervisory role are trained in the policy and its implementation. A record is kept. NIASA BMP – ETHICAL NURSERY STOCK SPECIFICATION
GOVERNANCE P.7 Australian horticulture's leadership structures and capacity build the vitality, sustainability and diversity of the horticulture sector.	GOOD GOVERNANCE P15. All industry participants behave ethically and lawfully. C35. Compliance with applicable laws and regulations is demonstrated. C36. Fair access to participate equally in markets is ensured. C37. Zero tolerance for bribery or corruption is demonstrated. P16. Resilience is protected and enhanced by assessment, mitigation and management of risks. C38. Government and industry develop and extend overarching national scenario planning for industry risks. C39. Industry participants develop, implement and regularly review risk management plans. C40. Innovation and infrastructure are well-resourced and supported by government and industry, and can be equitably accessed by industry participants.	SDG 16.6 Develop effective, accountable and transparent institutions at all levels. SDG 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.	13.24 PUBLIC POLICY The organisation's approach to public policy advocacy / lobbying and the impacts that can result from an organisation's influence. 13.25 ANTI-COMPETITIVE BEHAVIOUR Disclosure of the impacts of actions by an organisation that can result in collusion with potential competitors, abuse of dominant market position or exclusion of potential competitors, thereby limiting the effects of market competition. This can include fixing prices or coordinating bids, creating market or output restrictions, imposing geographic quotas, and allocating customers, suppliers, geographic areas, or product lines. Includes consideration of cooperatives. 13.26 ANTI-CORRUPTION Disclose political contributions.	M1.3 Document the business' commitment to integrity and ethical conduct. M1.4 Document the business' commitment to fair employment practices and compliance with all applicable laws. M1.5 Establish responsibility for workplace relations compliance. M1.6 Define the organisational structure of the business.
THRIVING COMMUNITIES P.8 Regional, peri-urban and urban communities value the contributions of horticulture. P.9 Recognition of horticulture in local government planning in key growing regions. P.10 Become an economic powerhouse for local communities and the Australian economy.	SOCIAL CONTRIBUTION P13. Society benefits from the agricultural industry's positive contribution. C29. Industry contributes to local community economic growth and social capital. GOOD GOVERNANCE P.15. All industry participants behave ethically and lawfully. C36. Fair access to participate equally in markets is ensured. FAIR TRADING P17. Unconscionable conduct is eliminated from the supply chain via demonstrated transparency and accountability. C42. Information asymmetry in the supply chain is eliminated where perverse outcomes are a risk. C43. Carbon footprint accounting is harmonised.	SDG 2.B Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round. SDG 2.C Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility. SDG 8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries. SDG 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead. SDG 8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products. SDG 11.A Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning. SDG 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.	13.22 ECONOMIC INCLUSION • Economic inclusion of farmers and their communities and the effectiveness of activities to reduce negative impacts on them. • Direct economic value generated and distributed. • Infrastructure investments and services supported. • Significant indirect economic impacts. 13.23 SUPPLY CHAIN TRACEABILITY The ability to trace the source, origin, or production conditions of raw materials and final products. 13.12 LOCAL COMMUNITIES Disclose: Operations with local community. engagement, impact assessments and development programs. Operations with significant actual and potential negative impacts on local communities.	

Planet & Resources

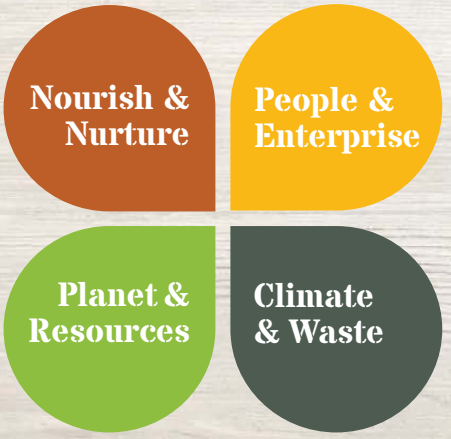
	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
SUSTAINABLE AGRICULTURAL PRACTICE R.1 Best practice land management is used in horticultural production. R.2 Soil health and productive capacity is maintained or improved. R.3 Nutrient applications are matched to crop need. R.4 Movement of soil, nutrients and chemicals into the environment are minimised.	SOIL & LANDSCAPES P3. Soil health and functionality are protected and enhanced. C6. Soils are managed to provide ecosystem services, including sustainable agricultural production. P4. Landscape degradation is avoided or minimised. C7. Land under productive agricultural management delivers beneficial environmental services. C8. Natural waterways are preserved and improved.	SDG2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. SDG 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes. SDG 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage. SDG 12.2 By 2030, achieve the sustainable management and efficient use of natural resources. SDG 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment. SDG 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. SDG 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	13.5 SOIL HEALTH Describe the soil management plan, including: • a link to this plan if publicly available; • the main threats to soil health identified and a description of the soil management practices used; • the approach to input optimisation, including the use of fertilisers. 13.7 WATER & EFFLUENTS Volume and quality of water discharged substances of concern. 13.6 PESTICIDES	HORT360 ENVIROVEG BANANA BMP ECOHORT FRESHCARE ENVIRONMENTAL
WATER R.5 Reliable, viable access to sustainable water resources. R.6 Responsible and efficient use of allocated water to optimise production per unit of water. R.7 Objective measures guide more efficient water use. R.8 Increased adoption of water recycling and reuse.	WATER P.6 Water resources are used responsibly and equitably. C11. Water is used efficiently in agricultural systems. C12. Adverse impacts to surface water and groundwater quality are prevented.	SDG 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. SDG 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate. SDG 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.	13.7 WATER AND EFFLUENTS Impacts related to the withdrawal and consumption of water and the quality of water discharged.	HORT360 ENVIROVEG BANANA BMP ECOHORT FRESHCARE ENVIRONMENTAL

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
BIODIVERSITY & POLLINATORS R.9 Biodiversity is managed sustainably. R.10 Australian horticultural crops have effective pollination and protect pollinator species.	BIODIVERSITY P5. Biodiverse ecological communities are protected and enhanced. C9. Farms support a diverse range of beneficial flora and fauna species. C10. Farm-related ecosystems are functioning and thriving.	SDG2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. SDG 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilisation of genetic resources and associated traditional knowledge, as internationally agreed. SDG 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species. SDG 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species. SDG 15.A Mobilise and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.	13.3 BIODIVERSITY Impacts on biodiversity, including on plant and animal species, genetic diversity, and natural ecosystems. • Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. • Significant impacts of activities, products and services on biodiversity. • Habitats protected or restored. • IUCN Red List species and national conservation list species with habitats in areas affected by operations.	HORT360 ENVIROVEG BANANA BMP FRESHCARE ENVIRONMENTAL ECOHORT
BIOSECURITY R.11 Responsible management of pests, weeds, diseases and agricultural inputs. R.12 Proactively manage biosecurity risks from pest and disease incursions into regions and Australia.	BIOSECURITY P14 Biosecurity threats are assessed, mitigated and effectively managed in systems of continuous improvement. C32. Farms have systems in place to monitor risk, prevent and mitigate adverse impacts from biosecurity threats. C33. Industry has systems in place to monitor risk, prevent and mitigate adverse impacts from biosecurity threats. C34. Government has systems in place to monitor risk, prevent and mitigate adverse impacts from biosecurity threats.	SDG 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.	The impacts of biosecurity (as an environmental and social issue) on horticulture.	HORT360 ENVIROVEG BANANA BMP BIOSECURE HACCP FRESHCARE ENVIRONMENTAL
PEST MANAGEMENT R.11 Responsible management of pests, weeds, diseases and agricultural inputs.	WATER P6. Water resources are used responsibly and equitably. C12. Adverse impacts to surface water and groundwater quality are prevented.	SDG 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.	13.6 PESTICIDES USE Approach to pesticide use, including the impact of their toxicity on non-target organisms. Describe the pest management plan, actions taken to minimise negative impacts and training provided to workers. Report the volume and intensity of pesticides used according to toxicity hazard level.	HORT360 ENVIROVEG BANANA BMP FRESHCARE ENVIRONMENTAL ECOHORT

Climate & Waste

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
EMISSIONS W.1 Horticultural plants capture carbon; production systems minimise greenhouse gas emissions.	GREENHOUSE GAS EMISSIONS & AIR P1. Net anthropogenic GHG emissions are limited to minimise climate change. C1. GHG emissions are reduced throughout lifecycle. C2. Carbon emissions are sequestered throughout lifecycle. C3. Where necessary (if C1 & C2 are impractical), GHG emissions are offset throughout lifecycle by purchasing recognised credits or participating in recognised projects. P2. Adverse impacts to air quality are avoided or minimised. C4. Plant, equipment and machinery are appropriately maintained and operated to maximise efficiency. C5. Activities which generate particulate matter are conducted within regulatory guidelines.	SDG 13.2 Integrate climate change measures into national policies, strategies and planning. SDG 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	13.1 EMISSIONS • Direct (Scope 1) GHG emissions.^ • Energy indirect (Scope 2) GHG emissions. • Other indirect (Scope 3) GHG emissions.^ • GHG emissions intensity. • Reduction of GHG emissions. • Emissions of ozone-depleting substances. • Nitrogen oxides (NOX), sulphur oxides (SOX), and other significant air emissions. ^include land use change emissions	HORT360 ENVIROVEG BANANA BMP ECOHORT
ENERGY W.2 Energy is used efficiently, with an increased proportion from renewable sources.	MATERIALS & RESOURCES P7. Finite resources are safeguarded in circular economic systems. C13. The use of inputs and resources that cannot be reused or recycled is minimised. C14. Renewable sources of inputs are prioritised.	SDG 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services. SDG 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix. SDG 7.3 By 2030, double the global rate of improvement in energy efficiency.	Influencing: 13.1 EMISSIONS	HORT360 ENVIROVEG BANANA BMP ECOHORT FRESHCARE ENVIRONMENTAL
CLIMATE ADAPTATION W.3 Australian horticulture understands and manages the risks of climate change and extreme weather variability and builds resilience to natural disasters. W.4 Increased use of horticultural plants and green space cools our cities and mitigates climate extremes.	GOOD GOVERNANCE P16. Resilience is protected and enhanced by assessment, mitigation and management of risks. C39. Industry participants develop, implement and regularly review risk management plans.	SDG 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. SDG 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities. SDG 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. SDG 13.2 Integrate climate change measures into national policies, strategies and planning. SDG 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	13.2 CLIMATE ADAPTATION AND RESILIENCE How an organization adjusts to current and anticipated climate change-related risks, as well as how it contributes to the ability of societies and economies to withstand impacts from climate change. Agriculture disclosure: • Describe the climate change-related scenarios used for identifying the risks and opportunities posed by climate change.	HORT360 ENVIROVEG

	Australian Agricultural Sustainability Framework	United Nations Sustainable Development Goals	GRI Agriculture	Related industry-led assurance programs
FOOD WASTE W.5 Increase the proportion of produce that meets first grade quality and increase utilisation of lower grade produce. W.6 Reduce food waste in the production system.	MATERIALS & RESOURCES P7. Finite resources are safeguarded in circular economic systems. C15. Residues and waste are reused or recycled.	SDG 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.	13.8 WASTE 13.9 FOOD SECURITY Report the total weight of food loss in metric tons and the food loss percentage, by the organisation's main products or product category, and describe the methodology used for this calculation.	
WASTE W.7 Packaging is minimised, recyclable, compostable or reusable. W.8 Reduce, reuse or recycle on-farm waste and input supply packaging.	MATERIALS & RESOURCES P7. Finite resources are safeguarded in circular economic systems. C13. The use of inputs and resources that cannot be reused or recycled is minimised. C14. Renewable sources of inputs are prioritised. C15. Residues and waste are reused or recycled.	SDG 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	13.8 WASTE Anything that a holder discards, intends to discard, or is required to discard. Waste generation, management of significant waste-related impacts, waste diverted from disposal, waste directed to disposal.	HORT360 ENVIROVEG BANANA BMP ECOHORT FRESHCARE ENVIRONMENTAL



AUSTRALIAN-GROWN HORTICULTURE SUSTAINABILITY FRAMEWORK

Working together to support a thriving, sustainable and evolving horticultural sector across Australia

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