



HORTICULTURE SECTOR ACTION PLAN FOR FOOD WASTE REDUCTION 2024

Summary Report

ENDFOODWASTE
AUSTRALIA





End Food Waste Australia is leading the development of Sector Action Plans as a key tool to reduce food waste through collaboration across the supply chain with foundational funding support from the Australian Government's Department of Climate Change, Energy, the Environment and Water.

This plan was compiled as a End Food Waste Cooperative Research Centre research project funded by the Australian Government's Cooperative Research Centre Program, and led by Central Queensland University with valued input from the horticulture sector.

For further acknowledgments, see the inside back cover.

This summary report is based on the technical report¹ "Akbar, D., Babacan, H., Marty, M., Nguyen, T., Rahman, A., & Brown, P. (2024). Horticulture Sector Action Plan for Food Waste Reduction- Final Technical Report. End food waste Australia".

As a part of the project two other commodity specific food waste action plans were developed for bananas² and melons³.

Foreword

Australia's 7.6 million tonnes of annual food waste is a challenge too big to solve alone. This plan is a first of its kind in Australia looking at collaborative and impactful solutions across the entire horticulture food supply chain to tackle food waste.

Reducing fresh produce waste is critical to reaching Australia's goal of halving food waste by 2030 and will have positive impacts for everyone, including growers, food insecure Australians, and the food industry, as well as on the economy and the environment.

I am incredibly proud to endorse the Horticulture Sector Action Plan, developed following a year-long research and extensive stakeholder engagement process. This plan provides invaluable insights into the root causes of food waste hotspots and, importantly, outlines the solutions and next steps to reduce this waste. I encourage everyone to get involved.

-Dr Steven Lapidge, CEO End Food Waste Australia.

The Queensland Government's Organics Action Plan 2023-2032 provides the roadmap for how Queensland plans to avoid generating organic waste and improve the management of material that can't be avoided. Horticulture is Queensland's second largest primary industry growing approximately one-third of the nation's produce. End Food Waste Australia has developed an action plan for the horticulture sector with support from the Queensland Government's Recycling and Jobs Fund.

-Department of Environment, Science and Innovation, Queensland Government

Here at Hort Innovation we recognise reduction of food waste in our 2023/2024 Australian-grown Horticulture Sustainability Framework. We are working with our industries to increase the proportion of produce that meets first grade standards and increasing utilisation of lower grade produce to reduce food waste across the production system. Through the opportunity to be actively involved in the co-design of the Horticulture Sector Action Plan we have been able to provide input on industry-wide implementation priorities to increase profitability and reduce environmental impacts.

-Kathryn Young, Head of Sustainability R&D, Horticulture Innovation Australia

The National Farmers Federation Horticulture Council is the preeminent forum for deliberating and forming policy and advocating on behalf of our national horticulture industry. As a body comprising 21 national commodity and state peak horticulture bodies, we recognise sustainability is integral to productive and profitable farm businesses. Reducing food waste on farm, and across the supply chain, will have benefits for profitability and the planet. This Plan provides clear direction and rationale for our industry to take action to reduce food waste, and work with others across the supply chain to repurpose excess crops and advocate for a supportive enabling policy environment.

-Jolyon Burnett, Chair, National Farmers Federation Hort Council



WHY ADDRESS HORTICULTURE FOOD WASTE?

The Horticulture sector is the third highest (17%) in economic value among agricultural industries, but it is accountable for about 50% of the total volume of food waste in Australia.^{4,5}

Australia loses 18 to 22% of total horticulture production pre-retail² with an estimated loss of \$1.72B in fruit and vegetables. Several studies highlighted these issues; however, they did not develop a detailed plan to target and address them. If Australia is to reduce its food waste by half by 2030, it must deal with horticulture food loss and waste.

PURPOSE OF THE PLAN

The aim of this Sector Action Plan (SAP)[§] is to reduce food waste across the horticulture sector of Australia and to establish a vision for increased profitability, increased supply chain resilience and improved environmental outcomes through reducing food waste.

[§] Sector action plans (SAPs) provide a systems-based approach to reducing food loss and waste and constitute a useful management tool for supply chain partners and collaborators in the targeted sector.

PLAN SCOPE

This “Horticulture Sector Action Plan for Food Waste Reduction” (will be referred as The Plan hereafter) covers waste reduction actions from farm to retail – Excluding households (Figure 1).

Which horticulture commodities are covered:

While the definition of the horticulture industry includes the production of a diverse spectrum of fruit, vegetable, ornamental plants (including floriculture), landscaping and turf, olericulture, arboriculture, aromatic and medicinal species, and other novel crops, this Plan is focussed on those plants that are considered food and therefore contribute to food loss and waste; mainly fruit and vegetables.⁶

What is covered as ‘food waste’

Horticulture food waste and food loss are often referred to as: edible plants produced for human consumption, but not consumed by people.^{7,8}

SUPPLY CHAIN FOOD WASTE BOUNDARY FOR THE PLAN

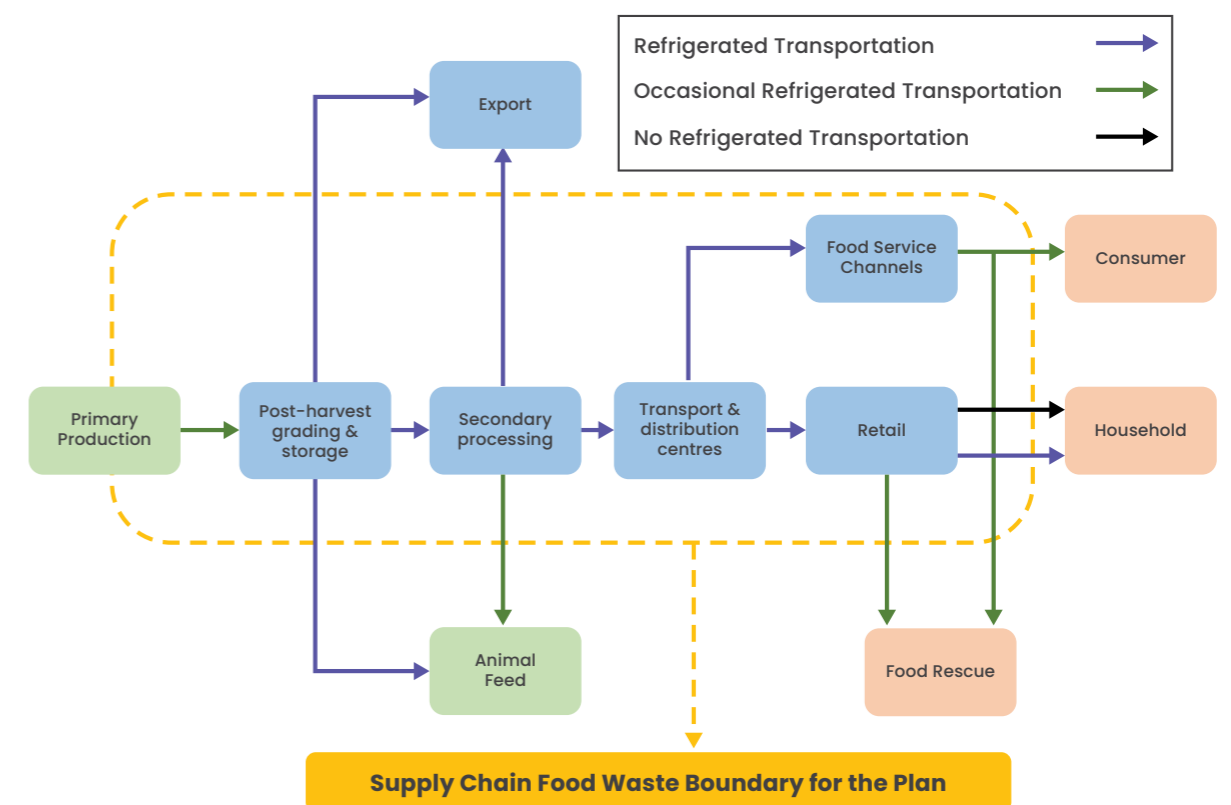


Figure 1: Australia’s horticulture supply chain and plan scope boundary.⁹

Wholesale markets are a vital component of the horticulture supply chain. Understanding how fresh fruit and vegetables gets to the consumer helps to ensure the actions we all take along the supply chain to reduce food waste have the impact we need. I have been pleased to be part of this collaborative process to reduce food waste across our sector.

–David Whichello former COO, Melbourne Market Authority’





HOW THE PLAN WAS DEVELOPED

- The Plan adopted the Review-Plan-Do Sector Action Plan (SAP) methodology.
- There were three stages of the research, which involved relevant stakeholder engagements (Figure 2). More than 30 stakeholders and researchers were involved in this study.
- Key root causes of food waste and solutions were identified through triangulation of the findings from Literature review, stakeholder interviews and workshops (Figure 2).
- The Plan development timeline was from December 2022 to January 2024 (Figure 3).
- Common areas of strategic action that were consistent with the framework for the National Food Waste Strategy adopted by the Australian government were identified.
- The feasibilities of interventions were assessed on four mutually agreed criteria: volumes of waste, economics (financial feasibility), technological complexity (technical feasibility) and then best and highest use (based on food waste prevention hierarchy) (Figure 4).
- This study then used these criteria to prioritise short-listed solutions into actions, as well as applied expert judgement and industry consultation. These actions are shown on pages 13-19 of this summary report.

As a dedicated grower, witnessing the wastage of meticulously cultivated food pains me. This waste can stem from various factors such as unpredictable weather events, stringent produce specifications, fluctuating market demand, or challenges in transporting the crop to market. Collaborating on the development of a sector action plan alongside university researchers and representatives spanning the entire supply chain has provided a platform for me to voice my concerns and contribute suggestions to enhance the efficiency of bringing more of my crop to consumers.

-Ros Rackemann, Watermelon, Pumpkin Grower North Burnett Region (QLD)

METHODS INVOLVED

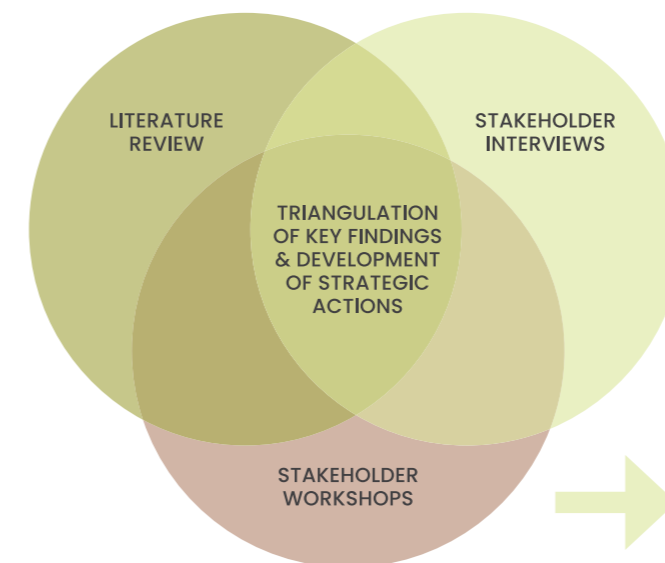


Figure 2: Research design.

STAGE 1:

- Literature review & secondary data collection
- Stakeholder interviews
- Workshops 1 & 2: hotspots, root-causes & interventions.

STAGE 2:

- Triangulation of Key findings
- Development of prioritisation criteria
- Short-list and define strategies with type, time, role, and waste utilisation hierarchy.

STAGE 3:

- Workshop 3: Ranking the short-listed strategies with detailed discussion.
- Draft action plan.
- Action plan consultation.

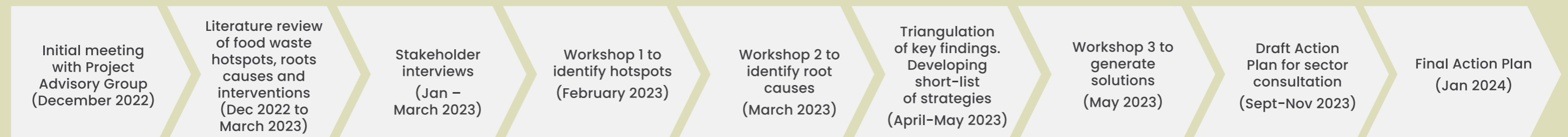


Figure 3: Development timeline of the Plan.



FOOD RECOVERY HIERARCHY

Prevention

Reduce waste of fresh produce at all stages of the supply chain - measured overall reduction in waste (e.g., reduce at on-farm waste stage via agronomy, specifications, labour, etc)

Repurposed

Upcycled into new food (e.g., convert waste into snacks, or excess produce into new products such as ready-made meals, juices).
Donated to people (exclude pre-committed donations)

Sent to animal feed

Recycling

Bio-based materials/bio-chemical processing of fresh produce waste (e.g. production of ethanol)

Waste sent to anaerobic digestion or co-digestion to produce biogas and fertiliser.

Waste composted / plough in fresh produce waste.

Recovery

Incineration of waste and energy recovery (e.g., heat generation through waste incineration).

Disposal

Waste incineration without energy recovery.
Waste sent to landfill/dumped on-farm. Waste ingredient/product going to sewer.

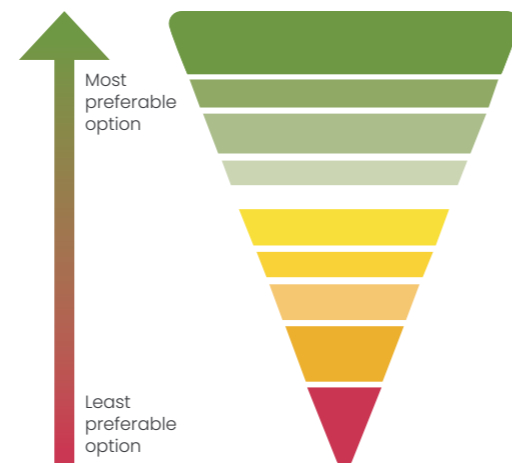


Figure 4: Horticulture specific food recovery hierarchy.¹⁰

HORTICULTURAL FOOD WASTE HOTSPOTS IN AUSTRALIA

Table 1: Estimated food waste of fruit and vegetables across the horticulture supply chain in Australia.⁵

SUPPLY CHAIN STAGE	ANNUAL AMOUNT OF WASTE (TONNES)	PERCENTAGE (%) OF WASTE IN THE CHAIN
Primary	908,403	23.7
Processing	409,744	10.7
Distribution	208,380	5.4
Retail	217,433	5.7
Household	1,271,850	33.2
Hospitality	757,992	19.8
Institutional	57,353	1.5
Total	3,831,155	100

The Australian banana industry has been privileged to be part of the overall investigations into reducing food waste in Horticulture. The 'deep dive' undertaken for the banana industry² with the researchers highlights clear actions to inform and empower our producers to reduce banana food waste and increase their profitability.

–Rosie Godwin PhD, R&D Manager | Australian Banana Growers' Council



FINDINGS ON ROOT CAUSES OF HORTICULTURE FOOD WASTE BASED ON STAKEHOLDER ENGAGEMENTS

- Food waste hotspots may differ across varieties and products.
- In general, the number-one horticulture food waste hotspot is on the farm, either in the paddock or in the grading and packing shed.
- The trigger for food waste in the grading process depends on product specifications, and transport and other related costs.
- The trigger for this is the grading process (formal or informal). “Is it fit to go to market?” “Will there be an acceptable return if the product progresses through the supply chain? (ROI, efficiency, sunk costs)”.
- Food waste can be impacted by produce and/or retailers’ standards as well as any gap between supply and product demand.
- Wholesale markets or distribution centres can be the next big quality control point in the supply chain and their standards also affected food waste.
- The transport/logistics stages do not cause much waste. However, multiple layers of boxes or level of strength of the boxes as well as box handling mechanisms can cause waste in this stage of the supply chain, which may appear later in consumption stages.
- Where fresh produce is supplied to a food processing centre, more relaxed specifications apply. Some waste in processing does occur because of lack of appropriate or adequate storing facilities for fresh produce.
- At the retail stage, there is often about 5% waste, due to damage, shelf-life expiration, oversupply, storage, and stock rotation issues.

Source: Prepared by the authors based on workshop and interview data, 2023



HORTICULTURAL FOOD WASTE ROOT CAUSES IN AUSTRALIA

Table 2: Root causes as identified in the literature review, interviews and workshops.*

ROOT CAUSES (RC)	PRIMARY PRODUCTION	POST-HARVEST GRADING AND PACKAGING	TRANSPORT	WAREHOUSE AND DISTRIBUTION CENTRE	RETAIL
RC 1 – Food waste measuring and monitoring systems: A lack of knowledge, business priority and data has meant that the Horticulture Industry has only implemented ad hoc food waste reduction initiatives in periods when food waste is increasing significantly – hence food waste levels have increased.	✓	✓		✓	✓
RC 2– Agronomy and environment: such as pests and diseases, unsuccessful varieties, poor water and fertiliser regimes, weather damage such as sunburn/frostbite/wind or rain or hail damage	✓	✓			
RC 3 – Cycle of over production: including speculative growing to manage viability risk, lack of adequate forecasting and market understanding, weather, and climatic implications such as flushes, supply and demand mismatch	✓			✓	✓
RC 4 –Workforce availability and skills: such as lack of skilled labour in the harvesting season; lack of attractiveness and minimal employee career pathways, or limited vertical integration in the supply chain, etc.	✓	✓	✓	✓	✓
RC 5 – Product standards and specifications such as cosmetic specifications, contract farming, price variation, change in consumer preferences, etc.		✓			✓
RC 6 – Redistribution of food waste such as lack of redistribution network and facilities and lack of social acceptance	✓	✓			✓
RC 7 – Technology, infrastructure and collaboration: such as lack of storing, handling and cooling facilities, lack of innovation and use of technologies	✓	✓	✓	✓	✓
RC 8– Value adding opportunities: lack of value adding facilities and technologies and lack of vertical and horizontal collaboration to develop commercially viable value-added facilities.	✓	✓	✓		
RC 9 – Policy and regulation such as red tape, inter-jurisdictional inconsistency, absence of regulation or financial incentive that can prevent food waste	✓		✓		✓

*Root causes impacting supply chain stages are indicated with the ✓ marks

WASTE PREVENTION & REDUCTION STRATEGIES

HOW CAN WE EFFECTIVELY REDUCE HORTICULTURE FOOD WASTE?



Enable it
Make it easier to reduce food waste



Prevent it
Stop food waste occurring in the first place



Repurpose it
From food waste to resource

E1. Identify root causes of food waste & develop food waste action plans for key horticultural commodities.

E2. Establish mechanisms for data collection, monitoring, measuring, and reporting to generate evidence about food waste in the horticulture industry.

E3. Institute an effective policy and regulatory environment for food waste minimisation across the horticulture sector.

E4. Accelerate and incubate innovation and technology solutions in the horticultural industry for food waste minimisation.

P1. Apply mechanisms for managing overproduction and balancing the demand and supply of horticultural products.

P2. Address labour and skill shortages across the horticultural supply chain for different commodities cycles of production and distribution.

P3. Reduce the impact of product specifications on food waste.

R1. Explore ways to value add to surplus or waste produce.

R2. Implement effective mechanisms for food donation.

E1. IDENTIFY ROOT CAUSES OF FOOD WASTE & DEVELOP FOOD WASTE ACTION PLANS FOR KEY HORTICULTURAL COMMODITIES.

Objective: To understand root causes of food waste in key horticultural industries and drive action towards food waste reduction.

This action addresses food waste root cause RC 1, RC 2 and RC 3

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
E1.1 Develop sector action plans (SAP) for key horticultural commodities to reduce food waste.	Root causes of food waste identified across a range of horticultural commodities. Commodity specific sector action plans developed for key horticultural commodities. Targets and pathways for food waste reduction identified for key horticultural commodities.	<ul style="list-style-type: none"> Hort Innovation Specific commodity peak industry bodies
E1.2 Implementation of SAPs through collaboration across the horticultural supply chain.	Actions identified in the SAPs in place. Commodity specific and horticultural industry collaboration efforts are intensified to reduce food waste. Horticultural SAPs implementation contribute to reduction of up to 50% of food waste.	<ul style="list-style-type: none"> End Food Waste Australia Agrifutures State Governments
E1.3 Support ongoing dissemination of latest science on agronomic (e.g., pest, disease, soil), environmental (e.g., climate, temperature), and other knowledge (e.g., cold chain, storage, and transport) relevant to specific commodities, and include food waste reduction as an impact of best practice.	Latest science is disseminated to improve production and handling. (Ongoing)	

E2. ESTABLISH MECHANISMS FOR DATA COLLECTION, MONITORING, MEASURING, & REPORTING TO GENERATE EVIDENCE ABOUT FOOD WASTE IN THE HORTICULTURE INDUSTRY.

Objective: To develop and implement techniques to understand the level and volume of waste across the horticultural industry sectors and develop an evidence base for good practice and policy to reduce food waste.

This action addresses food waste root cause RC 1 & RC 9

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
E2.1 Review horticultural food waste measurement and reporting including existing processes, systems and methodologies, current research, gaps in evidence, and best practices for data collection.	Sound understanding of the evidence base for food waste data collection and reporting methodologies and for the horticultural industry are in place.	<ul style="list-style-type: none"> Hort Innovation Commodity specific peak industry bodies
E2.2 Conduct trials of commodity-specific data collection and reporting techniques on food waste across the supply chain to ascertain a unified method.	Data gaps are identified and mechanisms for data generation and reporting on food waste are established.	<ul style="list-style-type: none"> End Food Waste Australia
E2.3 Commission relevant research on critical topics relating to food waste reduction via measurement and reporting across the supply chain in key horticultural industries.	Strong evidence base to support food waste reduction is developed on relevant topics.	<ul style="list-style-type: none"> Federal and State agencies CSIRO ABARES
E2.4 Create a framework to collect and report food waste data annually by providing incentives for business / grower participation in data collection and recording process.	Baseline data on food waste is collected by 2027 across key horticultural industries. Systems are in place for ongoing data collection and reporting on food waste.	<ul style="list-style-type: none"> Universities Governments
E2.5 Report on food loss research and data (type and volume) in the horticultural industry annually including regional and seasonal mapping.	Improved transparency about food loss by sharing research findings and data. Industry dissemination, training and development incentives are achieved with external parties.	

Short Term: 0-3 years Medium Term: 3-5 years Long Term: over 5 years



E3. INSTITUTE AN EFFECTIVE POLICY & REGULATORY ENVIRONMENT FOR FOOD WASTE MINIMISATION ACROSS THE HORTICULTURE SECTOR.

Objective: To ensure an optimum regulatory & policy environment is in place to support food waste prevention & reduction.

This action addresses food waste root cause RC 9

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
E3.1 Identify, quantify, and implement the impact of current policy and regulatory requirements on food waste.	Greater understanding of the positive and negative impacts of policy/regulatory measures on food waste. A global policy scan undertaken, enhancing policy inhibitors on exports and market dynamics.	<ul style="list-style-type: none"> • Relevant Australian Government agencies • Relevant State/Territory Government agencies • Peak industry bodies • End Food Waste Australia • Freshcare • Australian Competition and Consumer Commission (ACCC) • Standards Australia
E3.2 Revise the Freshcare Food Safety & Quality Standard to include options for food waste certification and training.	Industry owned self-regulation and food safety mechanisms support food waste reduction and training.	
E3.3 Review Food and Grocery Code and Horticulture Code of Conduct including recognition of food waste impact and support better practice from supply chain to reduce food waste.	Industry code of conduct guidelines include food waste impact and best practice guidelines. Improved cooperation and relationships between retailers, wholesalers, and producers in reducing food waste.	
E3.4 Work with government and industry to scope effective policy/regulatory levers to incentivise waste reduction behaviours across the supply chain.	Policy/regulatory environment improved by 2027 to reduce food loss and waste across the supply chain.	
E3.5 Advocate for the development of standards for food waste, including support for the development of ISO standards, compliance with, Upcycled Certification and alignment with global certification and sustainability requirements for trade.	Development and adoption of food waste standards. Upcycled food certification in place Global certification and sustainability requirements are in place to support exports	
E3.6 Review and address cross jurisdictional policy harmonisation impacts on food waste.	Food waste policy/regulation harmonised across jurisdictions in Australia.	

Short Term: 0-3 years Medium Term: 3-5 years Long Term: over 5 years

E4. ACCELERATE AND INCUBATE INNOVATION AND TECHNOLOGY SOLUTIONS IN THE HORTICULTURAL INDUSTRY FOR FOOD WASTE MINIMISATION.

Objective: To develop innovative & technological solutions to reduce food waste.

This action addresses food waste root cause RC 2 & RC 7

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
E4.1 Conduct research to explore the barriers to uptake of technologies that reduce food waste in key horticultural commodities.	Research conducted on 10 commodities highlighting barriers to uptake of technologies. Greater insights guide future initiatives for technology adoption for stopping food waste.	<ul style="list-style-type: none"> • Hort Innovation • Government agencies • Ag Tech companies • Research agencies • Food Manufacturers
E4.2 Undertake an audit of the digital and technological capacity of stakeholders across the supply chain in key horticultural commodities.	Identification of digital and technological skills needs across the supply chain in key horticultural commodities.	
E4.3 Explore the benefits of new apps and demonstrate their impact on food waste and costs.	New apps developed. Uptake of apps and their efficacy in reducing food waste is verified.	
E4.4 Develop forecasting and decision support tools to reduce environmental damage and increase value adding opportunities.	Reduced food loss at harvest from environmental and weather events. BOM measurement and forecasting better utilised for minimising crop damage. Increased value adding opportunities	
E4.5 Accelerate and incubate emerging innovation and technologies that support food waste minimisation across the horticultural supply chain (e.g., pest and disease, soil health, climate change and crop varieties, shelf life extension, cold chain and perishable goods, packaging, labelling, IT systems, transportation, logistics software and value adding).	Improved innovative technology solutions are utilised to address food waste across the horticultural supply chains.	

Short Term: 0-3 years Medium Term: 3-5 years Long Term: over 5 years



P1. APPLY MECHANISMS FOR MANAGING OVERPRODUCTION AND BALANCING THE DEMAND AND SUPPLY OF HORTICULTURAL PRODUCTS.

Objective: To limit overproduction of horticultural produce and achieve better market equilibrium.

This action addresses food waste root cause RC 2 & RC 3

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
P1.1 Establish and share a dynamic platform to support commodity specific supply- demand analysis and forecasting (including provision of location/time specific information).	Tools support increased planned production and decreased negative outcomes of speculative production. Improved skills in utilising forecasting tools across the key horticultural sectors.	<ul style="list-style-type: none"> • Hort Innovation • Specific commodity peak industry bodies • End Food Waste Australia • Federal and State agencies of environment and agriculture • Major Retailers • Wholesale Market peak body • ACCC
P1.2 Run awareness programs to enhance the understanding of the operation of the market, at different levels of fruit/crop maturity, its drivers, and the implications for production, profitability, and food waste in key horticultural commodities.	Improved market information and awareness across the supply chain. A trend towards balanced demand and supply of horticultural products.	
P1.3 Develop incentives to improve communication, share information and transparency of price and review market data within commercial/competition parameters.	Increased market knowledge and transparency to balance the forces of supply and demand more effectively.	
P1.4 Trial Whole Crop Purchasing arrangements with producers and retailers in selected commodities and share learnings from trials.	Improved planned production and overcoming supply/demand challenges.	
P1.5 Explore the feasibility of alternative market options for the sale of oversupplied produce including boosting exports.	Alternative markets have been developed across key horticultural products. New export markets identified and supplied	

Short Term: 0-3 years Medium Term: 3-5 years Long Term: over 5 years

P2. ADDRESS LABOUR AND SKILL SHORTAGES ACROSS THE HORTICULTURAL SUPPLY CHAIN FOR DIFFERENT COMMODITIES CYCLES OF PRODUCTION AND DISTRIBUTION.

Objective: To ensure workforce availability and appropriate skills to minimise food waste.

This action addresses food waste root cause RC 3 & RC 4

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
P2.1 Undertake research into impacts of workforce on food waste across the supply chains of key horticultural industries including cost of labour and production, skills gaps, labour market demand and supply, productivity, overseas and domestic sources of workforce, school career pathways and training and education solutions.	Deep insights into the impacts and options of labour market dynamics on food waste in key commodities and the overall horticultural industry.	<ul style="list-style-type: none"> • Relevant Australian Government agencies • Relevant State/Territory Government agencies (e.g. education, employment and training, agriculture, environment) • Peak industry bodies • Peak jobs networks agencies • Relevant education and training providers • Industry skills bodies
P2.2 Develop tools and resources to train and educate workforce in food waste reduction skills and decisions across the supply chain in field and packing, transport and storage, retail stock and inventory management.	The number of staff trained/educated in the food waste reduction is doubled by 2026 across the supply chain in areas such as field/packaging, transport/ storage/retail stock and inventory management.	
P2.3 Support the development of forward-looking commodity specific, regional, and overall industry workforce plans aligned with industry growth forecasts.	Labour market demand and supply options for key horticultural industries analysed and regional/industry workforce plans developed.	
P2.4 Undertake trial projects for innovative workforce models in selected horticultural industries to minimise food waste through matching skill needs to opportunities in food waste businesses.	Innovative workforce models trialled in selected industries to stop food waste. Workforce skills are identified for business opportunities in food waste businesses.	
P2.5 Undertake assessment of the potential impact of automation, AI and real time quality assessment tools on the horticultural workforce and food waste and identify adaptive strategies for the long term.	Automation and AI workforce impacts are analysed and adaptive workforce for future food waste reduction identified.	

Short Term: 0-3 years Medium Term: 3-5 years Long Term: over 5 years



P3. REDUCE THE IMPACT OF PRODUCT SPECIFICATIONS ON FOOD WASTE.

Objective: To ensure product specifications do not lead to food waste.

This action addresses food waste root cause RC 5

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
<p>P3.1 Establish a multistakeholder working group to conduct a general and commodity specific product specification review including:</p> <ul style="list-style-type: none"> • Origin, rationale, and validity of specification • Regularity and methods of specification review • Conditions for widening of specifications • Process for rejection of produce • Cost/benefits in tonnes and dollars of altering specifications to growers, consumers, wholesalers, retailers and hospitality • Identify product specification levers to reduce food waste across the supply chain 	<p>Granular understanding of product specifications and potential levers for food waste reduction.</p> <p>Better understanding of the link between product specification, production supply and food waste in 10 key commodities by 2024.</p> <p>Industry best practice specifications guidelines established for rejecting produce.</p>	<ul style="list-style-type: none"> • Horticultural supply chain stakeholders (growers, retailers, wholesalers, distributors) • Consumer bodies • End Food Waste Australia • Food and Grocery Council
<p>P3.2 Promote benefits of non-standard produce, including nutritional, environmental and economic sustainability to growers.</p>	<p>Enhanced consumer awareness and food literacy.</p>	

R1. EXPLORE WAYS TO VALUE ADD TO SURPLUS OR WASTE PRODUCE.

Objective: To value add to surplus or waste horticultural produce.

This action addresses food waste root cause RC 3 & RC 8

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
<p>R1.1 Instigate market feasibility studies for value-added products from surplus produce with a focus on scale of implementation, import substitution, financial viability, risk, and investor analysis.</p>	<p>Identification of options for value adding opportunities in key commodities.</p> <p>Markets for upcycled products achieved.</p>	<ul style="list-style-type: none"> • Hort Innovation • Specific commodity peak industry bodies • End Food Waste Australia • Federal and State agencies of environment and agriculture and industry
<p>R1.2 Undertake small-scale trials in key commodities for innovative value-added products, commercialisation, profitability and share lessons.</p>	<p>New value-added products are trialled and developed using surplus produce.</p>	
<p>R1.3 Develop partnerships with food manufacturers, investor and trade agencies to explore new market(s) and opportunities for value added products.</p>	<p>New markets are explored including demand analysis, barriers to entry and profitability.</p>	
<p>R1.4 Improve capabilities of supply chain stakeholders to value add to suboptimal produce that do not meet product specifications</p>	<p>Improved capability to repurpose rejected produce.</p>	
<p>R1.5 Explore the development of regional hubs for food processing and developing secondary markets through partnerships across supply chain actors, government, investors and enterprises.</p>	<p>Regional food waste processing hubs developed for commodity specific and cross commodity food processing facilities by 2030.</p>	

Short Term: 0-3 years Medium Term: 3-5 years Long Term: over 5 years

R2. IMPLEMENT EFFECTIVE MECHANISMS FOR FOOD DONATION.

Objective: To expand and enhance the food donation ecosystem to facilitate effective redistribution of horticultural produce to charities.

This action addresses food waste root cause RC 6 & RC 9

HOW WILL WE ACHIEVE THIS?	OUTCOMES	POTENTIAL LEAD AGENCIES
<p>R2.1 Address the current challenges for food donation across the supply chain as identified in the SWFA Food Rescue Sector Action Plan. Including but not limited to:</p> <ul style="list-style-type: none"> • Creating and delivering training assets targeted at "first responders" in donor organisations. • Developing and implementing an integrated stakeholder engagement strategy to grow horticulture donations. • Targeting wholesalers to explore possibilities to use them for cross-docking and packhouses, as gateways into regional supply • Facilitating growers to access available logistics (such as bins, transport and cold storage). 	<p>Challenges for food donation are identified and options and partnerships for food recovery are improved.</p> <p>Ecosystems for food donation established across 50% horticultural produce.</p>	<ul style="list-style-type: none"> • Hort Innovation • Specific commodity peak industry bodies • End Food Waste Australia • Food charities • Department of Health (re food security) • Federal and State Governments
<p>R2.2 Leverage food security initiatives to increase donation of surplus horticultural produce.</p>	<p>Horticulture industry contributes to national food security through donation of surplus produce.</p>	
<p>R2.3 Advocate for tax credits and other incentives for improved food donation activities to cover cost of harvest, packaging and transport.</p>	<p>Advocacy for tax incentives to support costs of donation will be successful by 2024.</p>	
<p>R2.4 Develop a recognition program for producers, marketers and retailers who contribute to food rescue organisations.</p>	<p>Good practice is recognised and rewarded.</p>	
<p>R2.5 Increase education for donors on the regulatory framework, liability protection, labelling and safe handling of donated food.</p>	<p>Improved education for food donors in relation to legal and regulatory frameworks.</p>	

Medium Term: 3-5 years Long Term: over 5 years



ROADMAP FOR THE PLAN

Timing of actions indicative only

Enable it



Prevent it



Repurpose it



2024 to 2026

- Review horticultural food waste measurement & reporting.
- Conduct trials of commodity-specific data collection & reporting techniques on food waste.
- Identify, quantify, & implement the impact of current policy & regulatory requirements on food waste.
- Revise the Freshcare *Food Safety & Quality Standard* to include options for food waste certification & training.
- Conduct research to explore the barriers to uptake of technologies that reduce food waste in 10 horticultural commodities.
- Undertake an audit of the digital & technological capacity of stakeholders across the supply chain in 10 horticultural commodities.
- Explore the benefits of new apps & demonstrate their impact on food waste & costs.

- Establish a dynamic platform to support commodity specific supply - demand analysis & forecasting.
- Undertake research into impacts of workforce on food waste.
- Establish a multistakeholder working group to conduct product specification review

- Market feasibility studies for value-added products from surplus produce
- Address the current challenges for food donation across the supply chain
- Leverage food security initiatives to increase donation of surplus horticultural produce.
- Advocate for tax credits & other incentives for improved food donation.
- Develop a recognition program for producers, marketers & retailers who contribute to food rescue organisations.

2026 to 2027

- Develop sector action plans (SAP) for key horticultural commodities to reduce food waste.
- Commission relevant research on critical topics relating to food waste reduction.
- Review food & Grocery Code & Horticulture Code of Conduct.
- Work with government & industry to scope effective policy/ regulatory levers to incentivise waste reduction behaviours.
- Development of forecasting tools to reduce environmental damage to ready to harvest crops.

- Run awareness programs to enhance the understanding of the operation of the market.
- Develop incentives to improve transparency of price & review market data within commercial/ competition parameters.
- Develop tools & resources to train & educate workforce in food waste reduction skills across the supply chain.
- Support the development of forward-looking commodity specific, regional, & overall industry workforce plans.
- Promote benefits of non-standard produce, including nutritional, environmental & economic sustainability to growers.

- Undertake small-scale trials in key commodities for innovative value-added products.
- Increase education for donors on the regulatory framework of donated food.

2027 to 2028

- Create a framework to collect and report food waste data annually by providing incentives for business/growers.
- Advocate for the development of standards for food waste.

- Trial Whole Crop Purchasing arrangements with producers & retailers in selected commodities.
- Undertake trial projects for innovative workforce models in selected horticultural industries.

- Develop partnerships to explore new market(s) & opportunities for value added products.
- Improve capabilities of supply chain stakeholders to value add to suboptimal produce.

Some of these actions are already in the implementation stage.

2029 to 2030

- Implementation of SAPs through collaboration across the horticultural supply chain.
- Report on food loss research & data in the horticultural industry annually.
- Review and address cross-jurisdictional policy harmonisation impacts on food waste.
- Accelerate & incubate emerging innovation & technologies that support food waste minimisation.

- Explore the feasibility of alternative market options including boosting exports.
- Assessment of the potential impact of automation & AI on the horticultural workforce & food waste.

- Explore the development of regional processing hubs.



TAKING ACTION NOW

Be **PROACTIVE**

- ✓ Record your food waste “If you can measure it, you can manage it”
- ✓ Manage overproduction “grow to sell”
- ✓ Look for value adding opportunities

PARTICIPATE in industry activity

- ✓ Communicate demand and supply
- ✓ Food waste reduction in staff training and KPIs
- ✓ Be part of initiatives like benchmarking, trials and pilots

PARTNER across the supply chain

- ✓ Work together to plan ahead for gluts
- ✓ Build trusted relationships to share information

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Further information including the Technical Report can be accessed at www.endfoodwaste.com.au/sector-action-plans

