

Melon

Strategic Investment Plan

2022-2026



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EXECUTIVE SUMMARY

The overarching strategic intent of this Strategic Investment Plan (SIP) is to support the profitability and sustainability of the Australian melon industry through continuous optimisation of the supply chain, including improved product quality, safety, waste reduction, and effective management of pests and diseases to further develop domestic and export market opportunities.

The melon SIP 2022-2026 provides a roadmap to guide Hort Innovation's investment of melon industry levies and Australian Government contributions, ensuring investment decisions are aligned with industry priorities.

The Australian melon industry situation in 2019/20 is described on **page 4** with further information provided in **Appendix 1**. In recent years, the Australian melon industry has consolidated, with production of 190,024 tonnes recorded in 2019/20. Muskmelons have continued to show year-on-year improvement in production volumes since a low in 2017/18. Queensland continues to be the main growing region with 34% of production, though diversity of production is spread across New South Wales (28%), Northern Territory (21%) and Western Australia (14%) with small volumes in Victoria and South Australia. While watermelons accounted for 69% of total production in 2019/20, the total farmgate value of \$152 million is more evenly spread with watermelons (\$84 million) and muskmelons (\$68 million), mostly due to exports.

Fresh domestic demand continues to be the main focus of the industry which accounts for 87% of the Australian melon market, though export (11%) is seen as a longer-term opportunity for both muskmelons and watermelons to help diversify the Australian melon industry market. Foodservice (10%) has undergone a significant downturn for the industry due to COVID-19, though the industry sees this as an opportunity to reinvigorate demand in this key market segment over the next five years.

The strategic intent of the melon SIP provides a summary of how the melon industry will drive change over the life of the SIP. Ultimately, this will be to drive the profitability and sustainability of the Australian melon industry through consistent improvement of product quality, reducing waste within the supply chain, and effective management of pests and diseases to increase the development of domestic and export market opportunities.

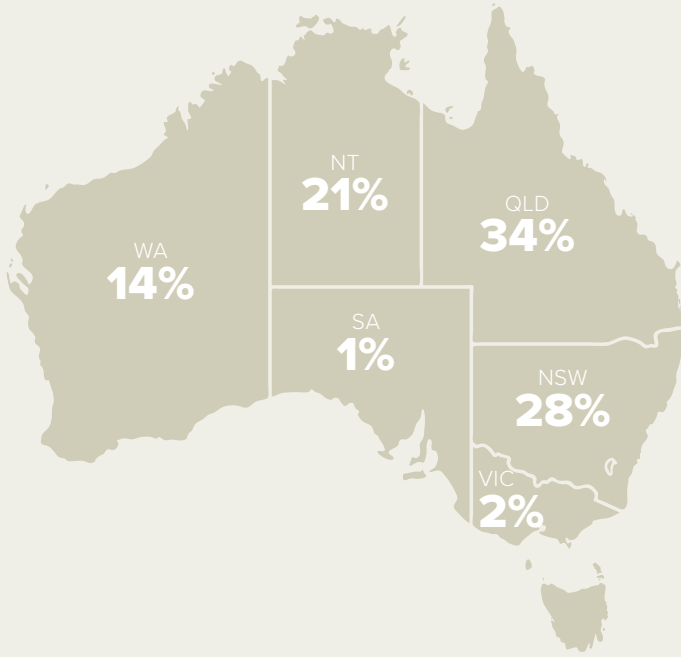
The financial estimates give an indicative overview of the funding availability for the period of FY2022-FY2026. Currently the melon research and development (R&D) fund has capacity to invest, with significant opportunity to invest in R&D investments over the next five years.

The four outcome areas of this SIP cover significant themes under which programs and investments will be focused. These are listed in priority order for the melon industry. Industry supply, productivity and sustainability is the highest priority for the industry, covering biosecurity, increasing competitiveness through research in productivity, product quality and postharvest management, sustainable growing best practice and soil health, while optimising the supply chain to reduce wastage.

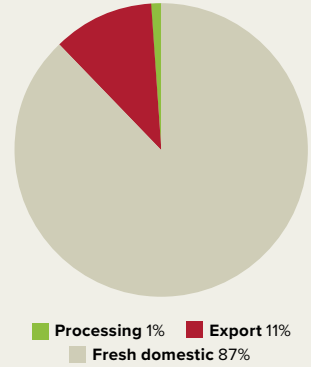
The key performance indicators (KPIs) detail how the impact of each strategy will be measured, for example, improved knowledge of soil-borne pests and diseases, including early detection of exotic organisms, diagnostic tools and targeted control methods for pathogen complexes and their vectors being made available for growers.



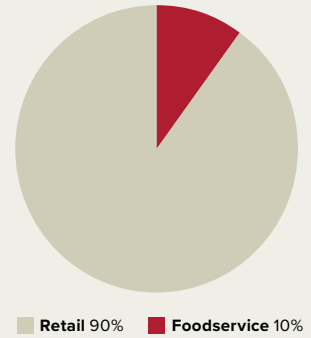
PRODUCTION REGIONS:



EXPORT/FRESH DOMESTIC/ PROCESSING:



DOMESTIC RETAIL VS FOODSERVICE:



PRODUCTION WINDOW:



Year-round

NUMBER OF GROWERS:



Approx. **250**

PRODUCTION AREA:



8,500 hectares

PRODUCTION VOLUMES:



190,024 tonnes

in 2019/20

FARMGATE VALUE OF PRODUCT:



\$152 million

in 2019/20

PER CAPITA CONSUMPTION:

6.4 kg

in 2019/20



VARIETIES:



Watermelon 69%

Rockmelon 26%

Honeydew 4%

Other* <1%

* Other melons such as the Piel de Sapo variety or Orange Candy

THE MELON STRATEGIC INVESTMENT PLAN

This SIP is the roadmap that will guide Hort Innovation's oversight and management of the melon industry's investment programs. It lays the foundation for decision-making in investments and represents the balanced interest of the whole industry. The important function of the SIP is to ensure that the investment decisions align with melon industry priorities.

Hort Innovation has led the process for preparing the refresh of the melon SIP, listening and engaging with levy payers and key stakeholders including Industry Representative Bodies (IRBs) and expertise available through advisory mechanisms and delivery partners. The refresh process has involved consultation with and input from a wide range of levy payers, objective analysis of performance and learning from the previous SIP, as well as environmental scanning to identify emergent trends and issues that could impact on industry profitability and sustainability.

Hort Innovation has valued the support, advice, time, and commitment of all stakeholders that contributed to producing this SIP, especially melon growers.

The whole-of-company approach taken by Hort Innovation to produce this SIP has harnessed existing external and internal knowledge, learning, partnerships and relationships. The output is a tailored plan with which the melon industry can be confident of its strategic intent, including visibility on how investment impacts will be identified. Specific investments to address the SIP strategies and align with industry strategic priorities will be outlined in detail via the melon Annual Investment Plan (AIP). The AIP will be published each year over the lifespan of the SIP and detail the investments that will be prioritised based on potential industry impact, as well as the availability of levy funds. Hort Innovation will advise industry stakeholders when the AIP has been published via established communication channels each year. The AIP will be developed with input from the melon Strategic Investment Advisory Panel (SIAP), IRBs and other key stakeholders.

Producers in the melon industry pay levies to the Department of Agriculture, Water and the Environment, which is responsible for the collection, administration and disbursement of levies and charges on behalf of Australian agricultural industries.

Agricultural levies and charges are imposed on primary producers by government at the request of industry to collectively fund R&D, marketing, biosecurity and residue testing programs.

Levy is payable on melons that are produced in Australia and either sold by the producer or used by the producer in the production of other goods. The R&D levy rate on melons is set at 0.3 cents per kilogram.

Hort Innovation has developed this SIP for the melon industry to strategically invest the collected melon levy funds into the priority areas identified and agreed by the melon industry.

This SIP represents the Australian melon industry's collective view of its R&D needs over the next five years (2022-2026). Learning, achievements and analysis of the previous SIP, consultation with Australian melon levy payers, and synthesis of various strategic documents have been incorporated into the development of this SIP. **Appendix 3** acknowledges the people who were consulted in the preparation and validation of this SIP. Statistics and data within this publication are sourced from the Australian Horticulture Statistic Handbook 2019/20 and other documents unless stated otherwise and are listed in **Appendix 4**. A list of acronyms used within the document is available in **Appendix 5**.

Financial estimates

The annual revenue from levy income and Australian Government contributions for eligible R&D set the overall budget parameters for the SIP. Importantly, a portion of these funds is already committed, as the industry has current multi-year projects for R&D activities. In addition, the levy income from year to year will vary due to changes in seasonal and market conditions.

The indicative financial estimates used for the purposes of developing this SIP are presented in **Table 1** below. These figures are regularly reviewed to reflect the latest information and statistics for the industry and any changes in investment priority. Further details will be available in the AIP each year.

TABLE 1. Indicative financial estimates for the melon SIP over the life of the SIP

	2022 \$	2023 \$	2024 \$	2025 \$	2026 \$
R&D					
Balance end FY2021	2,033,144				
Estimated levy funds (growers)	700,000	700,000	700,000	700,000	700,000
Australian Government contribution	1,374,269	1,274,854	818,713	654,971	654,971
Current investments	1,350,000	1,180,000	400,000	120,000	120,000
New investments	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Total project investments	2,350,000	2,180,000	1,400,000	1,120,000	1,120,000
CCR	398,538	369,708	237,427	189,942	189,942
Projected end balance	1,340,000	760,000	175,000	50,000	80,000

Disclaimer: All figures are indicative only and may change depending on actual income and expenditure.

Balance end FY2021 – The closing balance of the fund as at 30 June 2021

Estimated levy funds – Net levy income/revenue that is generated and collected by levy revenue services (LRS)

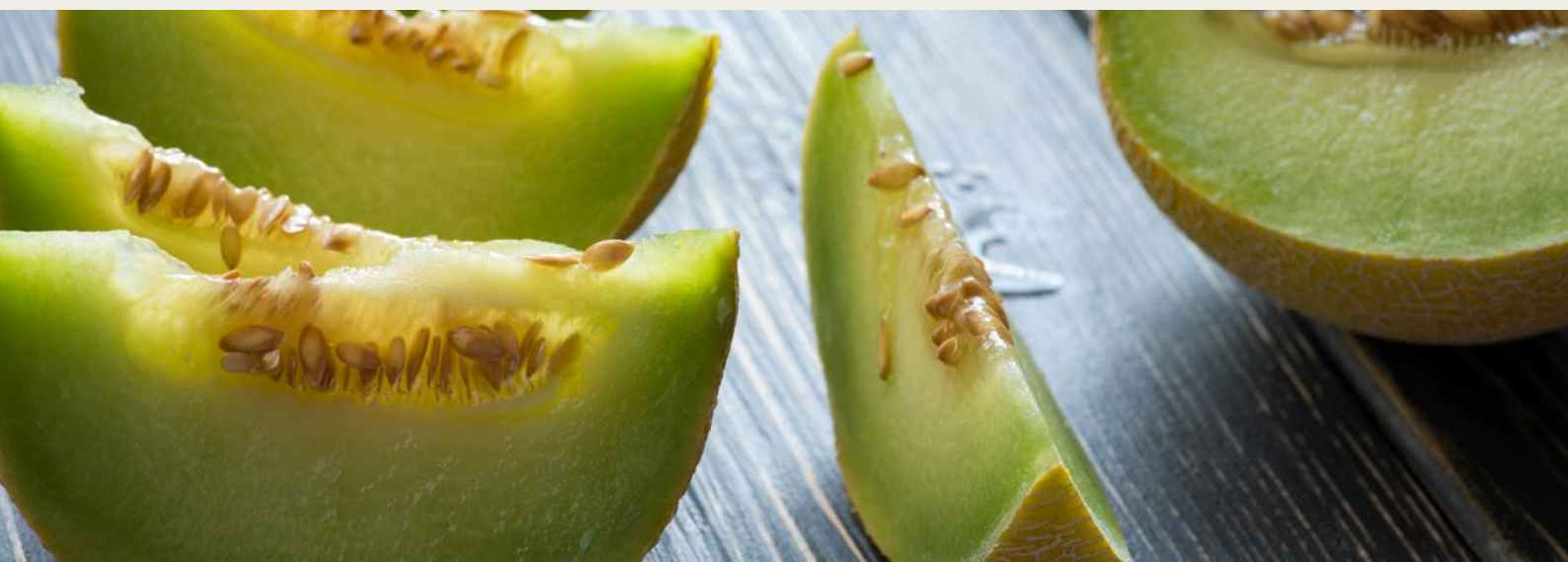
Australian Government contribution – Amount of contribution from the Australian Government on R&D levy-funded expenditure

Current investments – Current estimated value of contracted projects

New investments – The estimated dollar value that is available for potential new investments for industry subject to industry advice

CCR – Corporate cost recovery: the cost to implement and manage R&D and marketing investment programs for each industry

Projected end balance – Forecast of the anticipated final position of the fund



MELON INDUSTRY OUTCOMES



The overarching strategic intent of this SIP is to support the profitability and sustainability of the Australian melon industry through continuous optimisation of the supply chain, including improved product quality, safety, waste reduction, and effective management of pests and diseases to further develop domestic and export market opportunities.

Industry outcomes

Outcome statements as identified and prioritised by the melon industry have been prepared under four key outcome areas: industry supply, productivity and sustainability; extension and capability; demand creation; and business insights.

OUTCOME 1: Demand creation

Grow consumer demand in domestic and international markets to support farmgate grower returns.

Demand creation will support industry to develop existing and future domestic and international markets.

The strategic intent of this outcome is to maintain and strengthen consumer demand, as the foundation for sustainable expansion of production and consumption in domestic markets. It means the industry is investing to:

- Develop and improve market access for Australian melons into new and existing markets
- Support product positioning with consistent quality and responsible industry production practices
- Raise awareness of opportunities and pathways for businesses to be involved in meeting demand in new domestic and international markets.

“The important function of the SIP is to ensure that the investment decisions align with melon industry priorities.”

OUTCOME 2: Industry supply, productivity and sustainability

Improve industry productivity (inputs/outputs) to maintain local and international competitiveness, while maintaining viability and sustainability of supply.

Supply and productivity will be supported through improvements to production efficiencies that will drive profitability outcomes, while ensuring long-term sustainability outcomes.

The strategic intent of this outcome is to accelerate the application of production practices to optimise returns and reduce risk to growers. Achieving the outcome will involve:

- Protecting the production base by improving industry preparedness and resilience to biosecurity threats
- Increasing both international and domestic competitiveness through advances in research associated with productivity, increased product quality and postharvest management
- Incorporating sustainable growing best practices and advances made for soil health
- Optimising the supply chain to reduce wastage and improve traceability and sustainability of production systems
- Proactively monitoring potential crop protection regulatory threats and having access to a broader suite of effective, socially acceptable and environmentally sound crop protection solutions.

OUTCOME 3: Extension and capability

Building capability and innovative culture.

Building capability and an innovative culture will support industry cohesion and increase knowledge, attitudes, skills and aspirations (KASA) to use investment outputs across the supply and demand initiatives to better manage risk and create positive change.

The strategic intent of this outcome is to manage knowledge, relationships, systems and processes required to communicate effectively with internal and external stakeholders. Achieving the outcome will involve:

- A change in KASA and practice for grower and industry profitability and sustainability through use of best practices and innovating
- Growers, value chain, media and governments being well informed on industry initiatives and achievements as a vital part of regional communities and networks
- Improving networks and cross-industry collaboration to increase on-farm use of R&D outputs and to build a stronger more resilient industry
- Proactive strategic and evidence-based decision-making in businesses and for industry on investment, priorities and risk management.

OUTCOME 4: Business insights

Measure industry supply (production) and demand (consumer behaviour) data and insights to inform decision-making.

Business insights will support the industry to remain aware of market and industry trends to drive informed decision-making.

The strategic intent of this outcome is to deliver data and insights which is foundational to achieving success in the other three outcome areas of demand creation; supply, productivity and sustainability; and extension and capability.

Achieving the outcome will involve reliable baseline data and analysis to provide insights and understand current and emerging trends. Key investments will support the provision of consumer knowledge and tracking and independent reviews to enable better decision-making process at industry level and individual businesses.

These investments underpin and are complementary to delivery of the other outcome areas.



MELON INDUSTRY STRATEGIES

Strategies to address industry investment priorities

The tables below describe the strategies and identified impacts for each of the key outcome areas. The highest priority investments lay the foundation for the SIP and its implementation will require a balanced approach to ensure the industry has a high likelihood of success over the short (0-3 years), medium (3-5 years) and long term (5-10 years).

The ability to deliver on these strategies (and subsequent investments) will be determined by the ability of the statutory levy to provide the resources to do so. Further resources and efficiencies may potentially become available through alternative funding sources by way of Hort Frontiers strategic partnership initiative, external grants and/or cross-industry initiatives.

OUTCOME 1: Demand creation

Demand creation supports the Australian melon industry to develop existing and future domestic and international markets.

STRATEGIES	POTENTIAL BENEFIT OR IMPACT
1. Maintain and improve trade with existing premium export markets	<ul style="list-style-type: none"> Strengthened relationships between exporters and buyers through business-to-business engagement Industry agreement and support for implementation of an export plan
2. Develop and improve technical market access for Australian melons into priority markets	
3. Ensure industry has an up-to-date export strategy and access to trade expertise to guide decision-making in relation to export investment	<ul style="list-style-type: none"> Increased exports and demand Increased grower export capability and capacity
4. Document and share evidence of industry-wide practices that strengthen and assure the safety and integrity of melon products	<ul style="list-style-type: none"> Increased consumer confidence and demand for Australian melons
5. Establish quality standards to improve consumer acceptance of Australian melons	<ul style="list-style-type: none"> Deliver on consumer expectations



OUTCOME 2: Industry supply, productivity and sustainability

The Australian melon industry has increased profitability, efficiency and sustainability through innovative R&D, sustainable best management practices (BMPs), pollination, food safety and biosecurity.

STRATEGIES	POTENTIAL BENEFIT OR IMPACT
1. Improve soil management, including soil pathogen detection and management, and soil health with integration of cover crops into production and improved management practices	<ul style="list-style-type: none"> Improved knowledge of soil-borne pests and diseases, including early detection of exotic organisms Resilient, regenerative, sustainable production systems Improved soil health by building soil structure and condition, reducing erosion, adding nitrogen, improving nutrient recycling, and contributing to weed and soil-borne disease control
2. Develop and optimise fit-for-purpose pest and disease management strategies	<ul style="list-style-type: none"> Availability of diagnostic tools and targeted control methods for pathogen complexes and their vectors for growers
3. Improve industry preparedness and resilience to biosecurity threats	<ul style="list-style-type: none"> Improved industry biosecurity preparedness reducing the impact of an incursion
4. Continue developments in risk management practices to support a food safety culture	<ul style="list-style-type: none"> Reduction of mitigated food safety incidents and/or reduced impact
5. Improve the supply of consistent year-round eating quality of Australian melons and optimise the supply chain to reduce wastage	<ul style="list-style-type: none"> Increased demand through the development of minimum quality standards and reduced product wastage
6. Strengthen pollination security through robust honey bee health	<ul style="list-style-type: none"> Evidence of sustainable honey bee health through surveillance data
7. Prioritise the major crop protection gaps through a Strategic Agrichemical Review Process (SARP)*	<ul style="list-style-type: none"> Available registered or permitted pesticides are evaluated for overall suitability against major disease, insect pests and weed threats. The SARP aims to identify potential future solutions where tools are unavailable or unsuitable
8. Provide regulatory support and co-ordination for crop protection regulatory activities with the potential to impact plant protection product access, both in Australia and internationally*	<ul style="list-style-type: none"> Regulatory Risk Assessments have informed proactive strategic priority setting to avoid pest management gaps in the event access or use is negatively impacted
9. Generate residue, efficacy and crop safety data to support applications to the Australian Pesticides and Veterinary Medicines Authority (APVMA) that seeks to gain, maintain or broaden access to priority uses for label registrations and/or minor use permits for crop protection needs*	<ul style="list-style-type: none"> Crop protection solutions meet industry priority needs as identified in the industry SARP or biosecurity plan



OUTCOME 3: Extension and capability

Improved capability and an innovative culture in the Australian melon industry maximises investments in productivity and demand.

STRATEGIES	POTENTIAL BENEFIT OR IMPACT
1. Deliver communication and extension capability to create positive change in the areas of quality throughout the supply chain, demand creation, export capability, food safety culture, biosecurity and productivity via BMPs in soil health and integrated pest and disease management (IPDM) practices	<ul style="list-style-type: none"> • A change/progression in knowledge, awareness, skills and aspirations (KASA) for grower/industry profitability and sustainability which supports early adoption of risk BMPs and innovation (e.g., export capability and quality, soil health and food safety) • Consumer confidence and trust in the melon industry
2. Provide opportunity for engagement between the melon industry and across other industries and relevant stakeholders in the areas that are a high priority	<ul style="list-style-type: none"> • Improved networks and cross-industry collaboration to increase efficiencies and the use of R&D outputs to build a stronger more resilient industry increasing social capital and adoption of best practice and innovations • Increased exports and demand
3. Strengthen industry leadership through initiatives and training	<ul style="list-style-type: none"> • Evidence of proactive strategic decision-making in businesses and for industry on investment priorities and risk management • Increased industry or other stakeholder capacity (e.g., export capacity)

OUTCOME 4: Business insights

The Australian melon industry is more profitable through informed decision-making using consumer knowledge, production statistics and forecasting, and independent reviews.

STRATEGIES	POTENTIAL BENEFIT OR IMPACT
1. Increase industry alignment with quality (including sensory) and brand-positioning opportunities driven by consumer insights*	Provision of business insights to deliver against demand, trade, supply and extension outcomes
2. Use trade data to guide ongoing export development opportunities*	Increased industry export capacity

* Foundational investments provide data and information that underpin the delivery of other SIP outcome areas and will be aligned to this strategy. Foundational investment areas include:

- Consumer behavioural data
- Consumer usage and attitudes, and brand health tracking data
- Impact assessments
- Trade data
- Crop protectant data.





MELON SIP MONITORING AND EVALUATION

The melon SIP Monitoring and Evaluation (M&E) Framework development has been informed by Hort Innovation’s Organisational Evaluation Framework.

Progress against the SIP will be reported in Hort Innovation publications and through industry communication channels. The SIP outcomes and strategies are used to inform key performance indicators (KPIs) that in turn drive the investments and individual projects to deliver on the SIP. Projects responsible for delivering the strategy aligned with each KPI will collect the data.

An M&E and reporting framework is shown below. The framework shows what will be measured to demonstrate progress against the plan and how metrics will be tracked. Reporting on KPIs will be processed through various formal channels to inform industry and government investors of progress, performance, and impact. Data sources to support M&E will be identified and collected as part of the requirements for each levy investment.

Hort Innovation will facilitate the regular review of SIPs to ensure they remain relevant to industry.

Melon SIP Monitoring and Evaluation Framework

The melon SIP M&E Framework is shown below. It includes KPIs and data collection methods both at a macro/industry (trend) level and at more specific SIP strategic level/s.

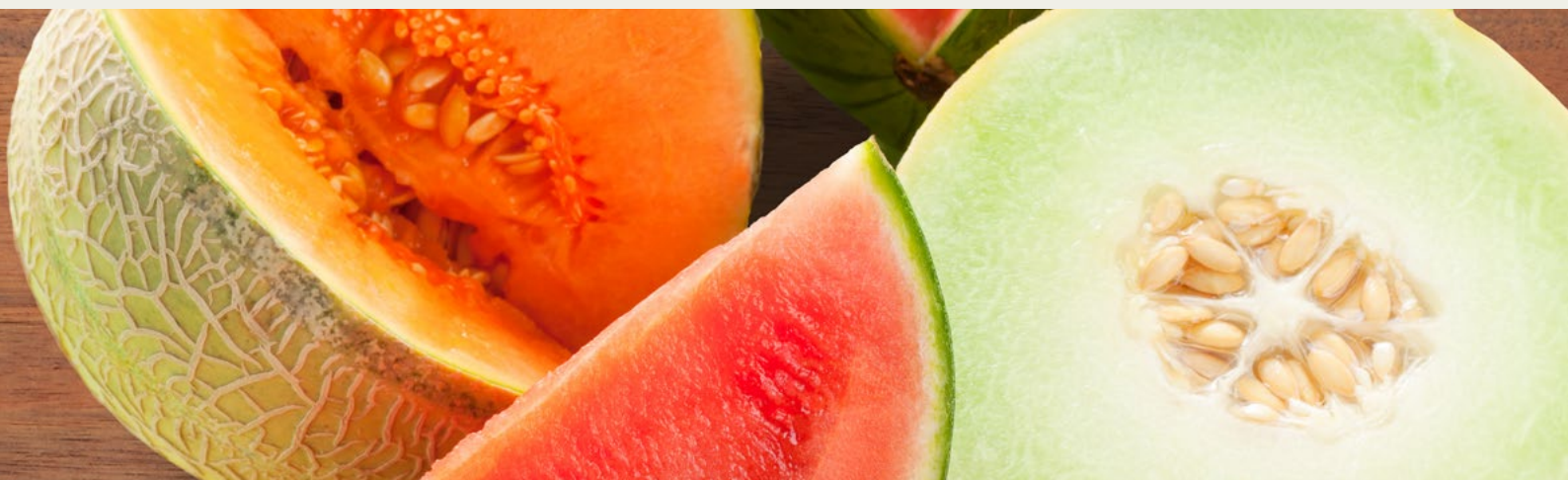
OUTCOME	STRATEGIES	KPIs
Demand creation		
Outcome 1: Demand creation supports the Australian melon industry to develop existing and future domestic and international markets.	1. Maintain and improve trade with existing premium export markets	<ul style="list-style-type: none"> Growth in export market share into selected markets
	2. Develop and improve technical market access for Australian melons into priority markets	<ul style="list-style-type: none"> Support for technical access to selected export markets (e.g., case studies)
	3. Ensure industry has an up-to-date export strategy and access to trade expertise to guide decision-making in relation to export investment	<ul style="list-style-type: none"> Development of an export strategy in collaboration with industry Use of export training material to support increased trade Support for facilitation for exporters to build networks online and/or in market
	4. Document and share evidence of industry-wide practices that strengthen and assure the safety and integrity of melon products	<ul style="list-style-type: none"> Increased consumer trust and confidence in the industry and its products (i.e., survey data)
	5. Establish quality standards to improve consumer acceptance of Australian melons	<ul style="list-style-type: none"> Increased consumer purchase frequency

OUTCOME	STRATEGIES	KPIs
Industry supply, productivity and sustainability		
<p>Outcome 2: The Australian melon industry has increased profitability, efficiency and sustainability through innovative R&D, sustainable BMPs, pollination, food safety and biosecurity.</p>	1. Improve soil management, including soil pathogen detection and management, and soil health with integration of cover crops into production and improved management practices	<ul style="list-style-type: none"> Development of soil surveillance methods and associated diagnostics in collaboration with growers
	2. Develop and optimise fit-for-purpose pest and disease management strategies	<ul style="list-style-type: none"> Development of pest and disease management strategies that mitigate crop loss in collaboration with growers
	3. Improve industry preparedness and resilience to biosecurity threats	<ul style="list-style-type: none"> Maintenance/tracking of the implementation of an industry biosecurity plan Development of surveillance and on-farm biosecurity plans for melon diseases (e.g., cucumber green mottle mosaic virus (CGMMV))
	4. Continue developments in risk management practices to support a food safety culture	<ul style="list-style-type: none"> Digital systems in place and used by growers A monitoring system in place that tracks a food safety culture
	5. Improve the supply of consistent year-round eating quality of Australian melons and optimise the supply chain to reduce wastage	<ul style="list-style-type: none"> Establishment of a baseline and then monitor declining proportion of waste product Development of industry-accepted minimum quality standards
	6. Strengthen pollination security through robust honey bee health	<ul style="list-style-type: none"> Evidence of sustainable honey bee health through surveillance data Pollination unaffected by CGMMV mitigations
	7. Prioritise the major crop protection gaps through a SARP*	<ul style="list-style-type: none"> Coordinated industry priority-setting with a clear outlook of gaps and risks in existing pest control options Industry priority needs published and shared with stakeholders, including registrants
	8. Provide regulatory support and co-ordination for crop protection regulatory activities with the potential to impact plant protection product access, both in Australia and internationally*	<ul style="list-style-type: none"> Regulatory Risk Assessments maintained
	9. Generate residue, efficacy and crop safety data to support applications to the APVMA that seeks to gain, maintain or broaden access to priority uses for label registrations and/or minor use permits for crop protection needs*	<ul style="list-style-type: none"> Data to support applications to the APVMA and the establishment of Maximum Residue Limits (MRLs)

OUTCOME	STRATEGIES	KPIs
Extension and capability		
<p>Outcome 3: Improved capability and an innovative culture in the Australian melon industry maximises investments in productivity and demand.</p>	<p>1. Deliver communication and extension capability to create positive change in the areas of quality throughout the supply chain, demand creation, export capability, food safety culture, biosecurity and productivity via BMPs in soil health and IPDM practices</p>	<ul style="list-style-type: none"> Establishment of a baseline to develop relevant measurables and demonstrate increased share of industry (hectares) with positive change in KASA, practice and impact in targeted high-priority areas (e.g., export capability, quality, soil health, food safety)
	<p>2. Provide opportunity for engagement between the melon industry and across to other industries and relevant stakeholders in the areas that are high priority</p>	<ul style="list-style-type: none"> Grower satisfaction with growth in cooperation within industry and across industries leading to business and industry innovations (i.e., survey data)
	<p>3. Strengthen industry leadership through initiatives and training</p>	<ul style="list-style-type: none"> Proactive strategic and evidence-based decision-making in businesses and for industry on investment priorities and risk management
Business insights		
<p>Outcome 4: The Australian melon industry is more profitable through informed decision-making using consumer knowledge and tracking production statistics and forecasting, and independent reviews.</p>	<p>1. Increase industry alignment with quality (including sensory) and brand-positioning opportunities driven by consumer insights*</p>	<ul style="list-style-type: none"> Delivery of a consumer insights strategy Evidence that consumer insights inform strategic market engagement Availability of new consumer knowledge for growers
	<p>2. Use trade data to guide ongoing export development opportunities*</p>	<ul style="list-style-type: none"> Trade data maintained and data outputs supplied to meet stakeholders needs

* Foundational investments provide data and information that underpin the delivery of other SIP outcome areas and will be aligned to this strategy. Foundational investment areas include:

- Consumer behavioural data
- Consumer usage and attitudes, and brand health tracking data
- Impact assessments
- Trade data
- Crop protectant data.



Reporting framework

Hort Innovation will use dynamic reporting aligned to the Organisational Evaluation Framework to report regularly on progress and performance. Reporting will be processed through formal channels to inform industry and government investors.

A review of investment performance against the respective industry outcome and/or strategy-level KPIs for the melon SIP will be completed annually as the primary reporting mechanism. The SIP performance report will provide:

- Evidence of progress towards achieving the industry-specific outcomes and strategies through an assessment of the KPIs identified in the SIP
- Evidence of progress towards cross-industry investment strategies and outcomes. It will involve Hort Innovation's whole-of-horticulture reporting obligations and corporate plan and involve annual reports and Hort Innovation's Annual Operating Plan.

SIP performance reports will also inform the Australian Government of progress towards achieving government priorities.

In particular, reporting will support Hort Innovation to meet the Performance Principles and requirements contained in the [Deed of Agreement 2020-2030](#).





COLLABORATION AND CROSS-INDUSTRY INVESTMENT

Based on advice from industry throughout the engagement process, Hort Innovation understands that Australian horticulture industries have common issues, and in turn have identified prospective areas for collaboration and cross-industry or regional investment.

These opportunities have been included as strategies across multiple industry SIPs where relevant and required. By delivering targeted multi-industry collaboration in RD&E, marketing and international trade, Hort Innovation aims to support more effective and efficient outcomes for growers and the wider horticulture sector. This includes driving investment through the Hort Frontiers strategic partnership initiative. Importantly, while this approach acknowledges there is value in solving issues across industries and regions, it does not reduce the importance of industry-specific initiatives.

Cross-industry/regional R&D opportunities identified for the melon industry include:

- Improving access to information and strategies to address food safety and traceability issues
- Soil health (soil wealth) programs
- Optimising the supply chain to reduce wastage (sustainable production systems)
- Natural resource management
- Leadership.

Cross-industry areas of collaboration for demand-driving outcomes provide the opportunity to advance the prosperity of the sector through gaining efficiencies in the delivery of the program and contributing to stronger overall outcomes. By collaborating as one sector to win the hearts and minds of the consumers, in addition to individual demand driving programs, there is the potential to enhance the total category value proposition, contributing to driving returns for Australian growers.

Areas of consideration for collaboration for demand-driving outcomes across the lifespan of the melon SIP 2022-2026 include:

- All-of-horticulture consumer marketing campaigns designed to drive awareness, consideration, and purchase behaviour change
- Communications to bring horticulture to top of mind (saliency) and reposition the benefits they provide to Australian and international consumers
- Retail partnerships to advance total category and shopper demand-driving programs
- A global brand platform to reinforce the unique selling proposition of Australian-grown horticultural produce and drive preference with international consumers.

Strategic science and research focus

Collaboration across the agriculture research community is essential, including with IRBs and organisations such as the CSIRO, universities, private enterprise and state government agencies. Hort Innovation is a member of the National Horticulture Research Network (NHRN) together with other senior horticultural R&D representatives from state and Australian Government agricultural agencies. The NHRN is responsible for the development and implementation of the broader Horticulture RD&E Strategy under the National Primary Industries RD&E Framework.

During the engagement process, key delivery partners were contacted including lead agencies within the NHRN Framework as well as specific delivery partners for each industry. The lead agency involved with the melon industry investment program, NSW Department of Primary Industries (NSW DPI), was engaged during the development of this SIP to ensure consideration and strategically aligned priorities for the melon industry. In addition, strategic priorities and opportunities identified by Australian Melons Association (AMA) have been considered in the development of the melon SIP where applicable.

TABLE 2. Government and key agency priorities

AMA priorities	NSW DPI priorities	Rural RD&E for Profit priorities	Australian Government Science and Research priorities
<p>Maintaining a high level of product quality and meeting and driving increased consumer demand</p> <p>Innovation to improve products, traceability and operating systems (including food safety and biosecurity)</p> <p>Resourcing and implementing industry priorities</p> <p>Building industry capacity and investing in our people</p> <p>Market development, connection with retailers and growth of export</p>	<p>Through chain approach to melon food safety and quality</p> <p>Accelerating adoption of end-to-end digital traceability</p> <p>Technological solutions to improve market access and exports</p> <p>Improving supply chain efficiencies, value addition and reducing waste</p> <p>Biosecurity surveillance and research</p>	<p>Advanced technology</p> <p>Biosecurity</p> <p>Soil, water and managing natural resources</p> <p>Adoption of R&D</p>	<p>Food</p> <p>Soil and water</p> <p>Advanced manufacturing</p> <p>Environmental change</p> <p>Health</p>

This SIP has been developed alongside the government and key agency priorities listed in **Table 2**, with consideration of issues faced by the melon industry. These strategic areas further emphasise the opportunity and importance of cross-industry and regional collaboration. All the priority areas are of importance to Australian horticulture, and these will play a role in driving the efficiency and effectiveness of investment across the sector.

Annual investment planning

Specific investments to address the SIP strategies and align with industry strategic priorities will be outlined in detail each year via the melon AIP. Investment decisions are guided by the SIP and prioritised based on potential industry impact, as well as the availability of levy funds each year. The AIP will be developed with input from the melon SIAP, which is made up of growers and other industry representatives as well as IRBs and other key stakeholders. Wherever possible, investments will be aligned to form multi-industry projects to increase the efficiency of funding availability. Details of the SIAP can be found on the Hort Innovation website [here](#), and the AIP will be published on the same page each year.

Investment opportunities through Hort Frontiers

Innovation is key to the future success of Australian horticulture. The next evolution of the long-range, higher risk and transformational R&D that has the potential to make a significant impact will be possible through Hort Innovation's Hort Frontiers strategic partnership initiative.

Hort Frontiers is a strategic partnership initiative that facilitates collaborative, cross-industry investments focused on the longer term and more complex themes identified as critical for Australian horticulture by 2030. The partnership framework is currently being established and will include a number of key investment themes for potential investment to guide the initiative and drive transformational R&D across horticulture. Key investment themes will include:

- Environmental sustainability (water, soil and climate)
- Pollination
- Green cities
- Biosecurity
- Health, nutrition and food safety
- Advanced production systems
- International markets
- Leadership
- Novel food and alternate uses (waste reduction).

The development of these areas for investment will benefit all of horticulture, with support from partners with aligned priorities to co-invest in deliverables identified that require alternative funds available outside the levy. Hort Frontiers is being developed to align with the Australian-grown Horticulture Sustainability Framework to invest in specific impact areas to drive innovation and sustainability initiatives.

The melon industry views all the above investment areas as opportunities for success into the future. Partnering with Hort Frontiers on these areas would provide the melon industry with opportunities for access to world-class research, specialised project management teams and large-scale R&D.

Australian-grown Horticulture Sustainability Framework

Hort Innovation has developed the Australian-grown Horticulture Sustainability Framework, aiming to strengthen the horticulture industry's sustainability to meet the changing expectations and needs of growers, consumers, the community, investors and governments. The framework applies across the whole of Australian horticulture, including fruits, vegetables, nuts, nursery stock and turf. Through widespread consultation with industry and external groups, proposed sustainability goals and indicators were identified and are detailed within the framework. The framework is aligned to the UN Sustainable Development Goals.

Four key pillars were identified in the framework (*Figure 1*).

FIGURE 1. Four key pillars of the Australian-grown Horticulture Sustainability Framework



The framework should be cross-referenced when undertaking prioritisation of investments. At the time of publication, Hort Innovation is working with industry groups regarding the overall responsibility for the framework, setting and reporting progress against the framework targets and performance measures.

View the Australian-grown Horticulture Sustainability Framework on the Hort Innovation website [here](#).

Table 3 provides an example of a melon SIP strategy that illustrates how the industry is already aligning to the framework.

TABLE 3. A melon SIP strategy example showing how the industry is already aligning to the Australian-grown Horticulture Sustainability Framework

STRATEGY	IMPACT	SUSTAINABILITY GOAL
Improve soil management, including soil pathogen detection and management, and soil health with integration of cover crops into production and improved management practices	<ul style="list-style-type: none"> Improved knowledge of soil-borne pests and diseases, including early detection of exotic organisms Resilient, regenerative, sustainable production systems Improved soil health by building soil structure and condition, reducing erosion, adding nitrogen, improving nutrient recycling, and contributing to weed and soil-borne disease control 	Planet & Resources



“This SIP is the roadmap that will guide Hort Innovation’s oversight and management of the melon industry’s investment programs.”

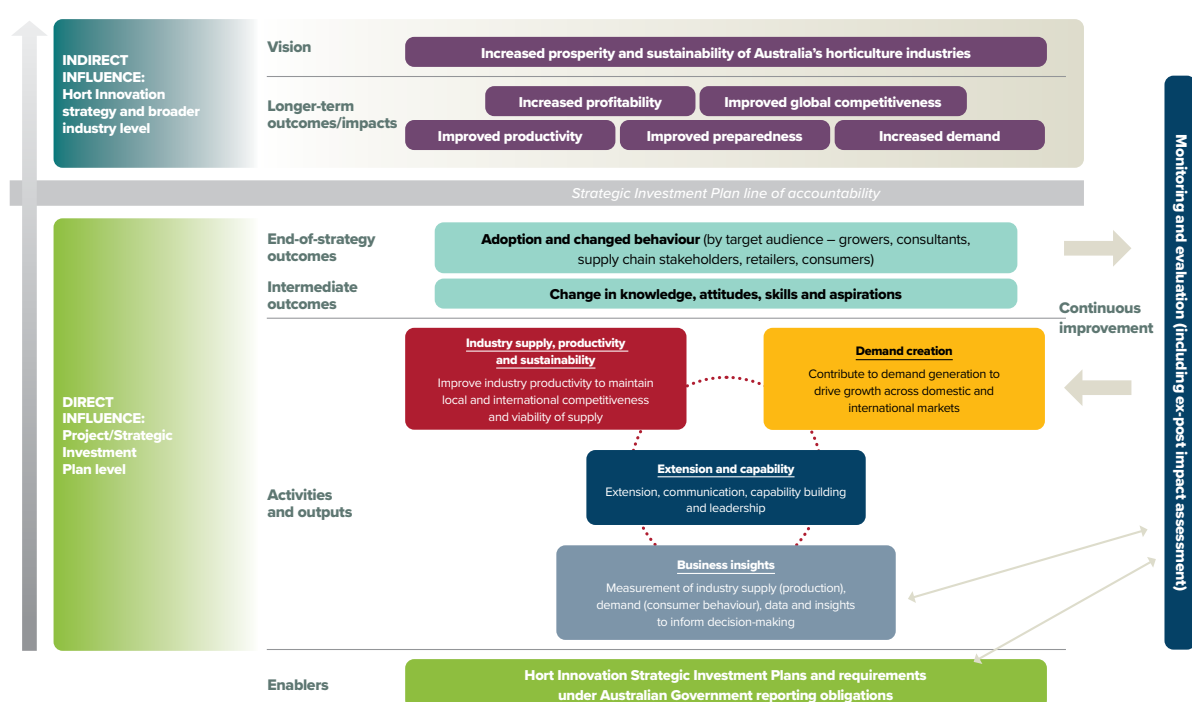
HORT INNOVATION



Strategic Investment Plan logic

The SIP logic (**Figure 2**) identifies how investment activities and outputs (delivered through each SIP outcome area) will support changes in industry KASA, which drive adoption and behaviour change. Beyond the SIP, investment will contribute to driving longer-term impacts for the sector like increased preparedness, demand, productivity, global competitiveness and profitability. Realising these impacts will support Hort Innovation’s vision of increased prosperity and sustainability of Australia’s horticulture industries.

FIGURE 2. Strategic Investment Plan logic



Aligning to Hort Innovation investment priorities

Hort Innovation is committed to sustainable growth in horticulture, with the overarching aim of increasing the sector’s value to \$20 billion by 2030. We will do this through implementing the SIP and investments against the three core pillars, committed to:

1. Drive knowledge and innovation into horticulture industries
2. Deliver the highest value R&D, marketing and international trade investments across industries now and into the future
3. Enable activities that drive all strategic imperatives.

Hort Innovation is governed by a Deed of Agreement with the Australian Government, which allows for the transfer and investment of levies and Australian Government

contributions. As a Research and Development Corporation (RDC), Hort Innovation is able to leverage industry levy investments in research, development and extension (RD&E) with Australian Government contributions up to a value of 0.5% of the industry’s gross value of production. All investments made by Hort Innovation are thoroughly considered to ensure they contribute to the guiding performance principles:

- Productivity
- Profitability
- Preparedness for future opportunities and challenges
- Competitiveness
- Demand: demonstrates how productivity, preparedness and demand lead to profitability and competitiveness and sustainability.



APPENDICES

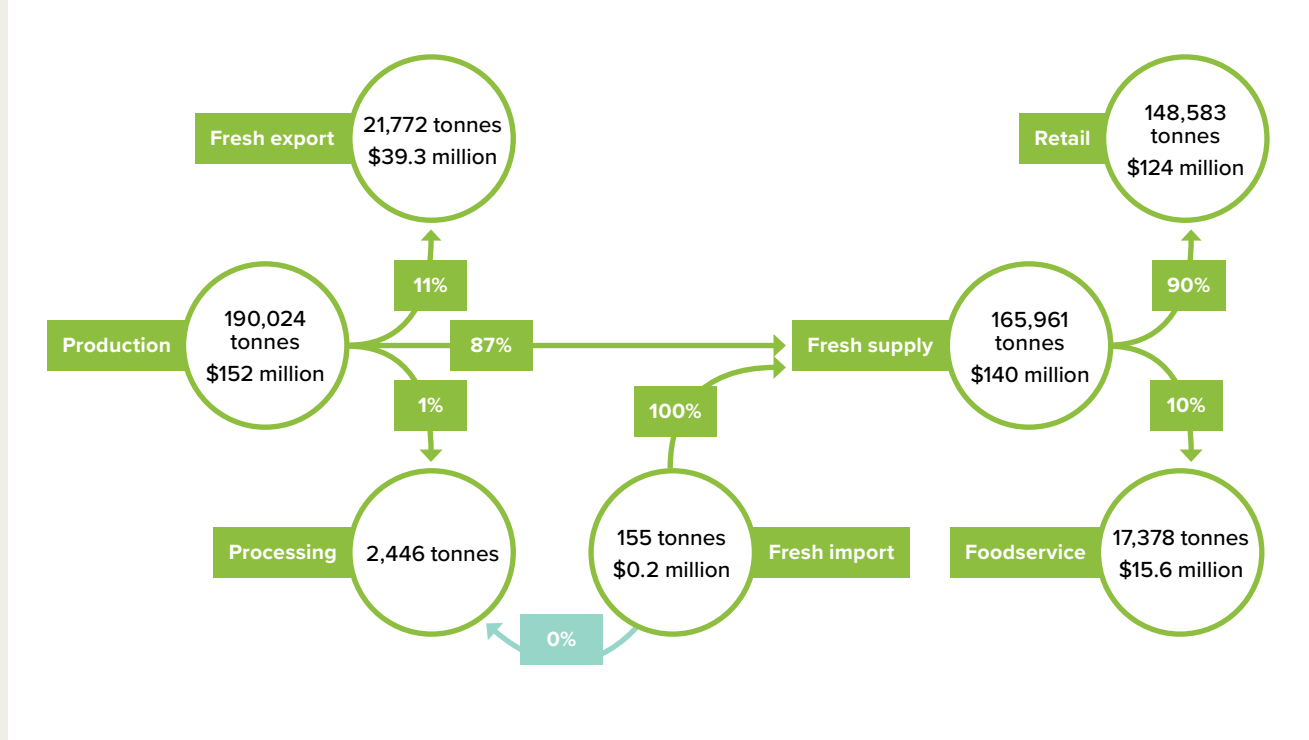
APPENDIX 1: Industry context

Industry supply chain

The number of melon growers and the area cultivated for melons can fluctuate from season to season in Australia, with grower numbers sometimes reaching as high as 250 growers in a season. This is largely due to some cultivars, such as watermelon, being an opportunistic crop that some growers may choose to grow when wholesale prices are high, but otherwise may choose alternative crops to replace them.

Melons are grown across Australia in all states and territories except Tasmania. The largest producing states are Queensland (34%), New South Wales (28%), Western Australia (14%) and Northern Territory (21%). There are two seasons, the northern season from June to November and the southern season from January to April, ensuring fresh year-round supply.

FIGURE 3. Melon supply chain, 2019/20



Source: Australian Horticulture Statistics Handbook (2019/20)

Melons, particularly watermelons, are grown mainly for the domestic retail market, with over 85% of production to this market.

Foodservice is a significant market for melons, with 20% of fresh supply sent to this destination in 2018/19. In 2019/20, however, the COVID-related contraction of this market reduced the fresh supply share to only 10% of production. Foodservice is a more important market for muskmelons, with 15% of fresh supply sent to this market in 2019/20, compared to 9% for watermelons.

Similarly, exports are more important for muskmelons, with 26% of production volume exported, compared to 5% for watermelons. Processing is a very small market, with only 1% of industry production going to this destination.

Domestic consumers and drivers of demand

Demand for melons is higher during the summer months, when there are not only more buyers, but also more frequent buyers who purchase more melons per shop.

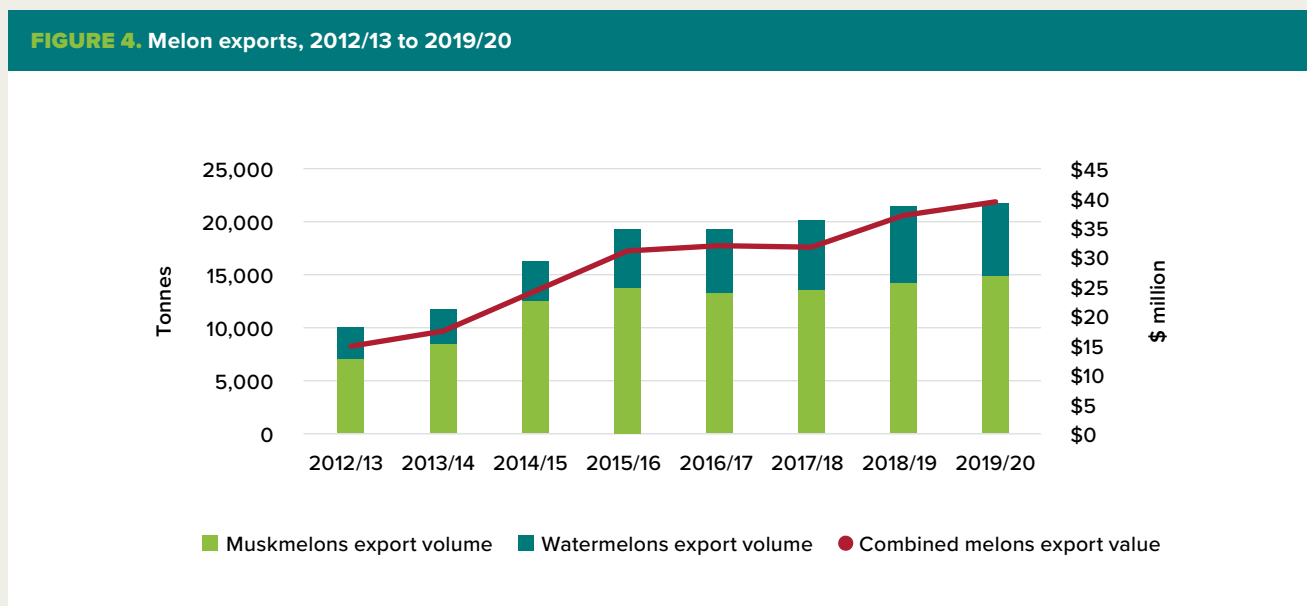
Major challenges and barriers for purchasing fresh melons include:

- Price: this is a particular issue during the winter season
- Saliency: melons are not a first purchase option for many consumers, especially during winter
- Physical issues: storage and shelf life issues are listed as the main barriers to increasing consumption of fresh melons.

Food safety incidents linked to rockmelons have translated into serious public health issues in recent years. For example, in 2018 a listeria outbreak in Australian rockmelons had major adverse impacts on the Australian melon industry. The bacterium *Listeria monocytogenes* was detected in rockmelons from the New South Wales region and linked with public illness and fatalities in New South Wales and Victoria. Demand for melons in Australia was temporarily impacted during this period.

The industry has invested heavily in food safety to prevent future incidents. Hort Innovation projects include *Food safety, training, extension and capacity* (VM17002), *Risk and crisis management planning for the melon industry* (VM18002) and *The effective control of listeria on rockmelons through alternative postharvest treatment methods* (VM19000).

Export market



Source: Australian Horticulture Statistics Handbook (2019/20)

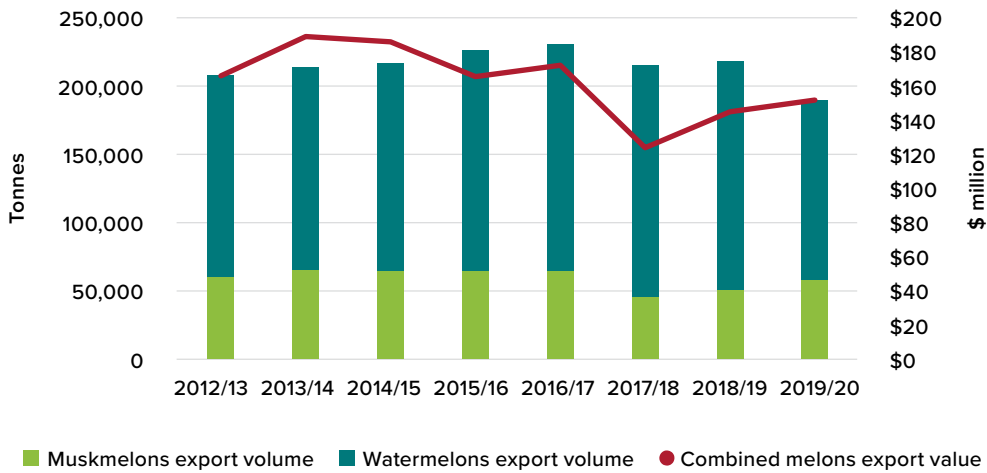
Melon exports have experienced growth in volume in every year except one since 2012/13. Combined export value has more than doubled from \$15 million in 2012/13 to \$39 million in 2019/20. In contrast to production figures, muskmelons make up the majority of export volume at 68%.

The total volume and value of melons exported from Australia has slowed recently due to several international and quarantine issues. Melons are considered a fruit fly host and are susceptible to other pests and diseases including CGMMV, which temporarily affected export into New Zealand.

The industry has benefited from Australia’s Free Trade Agreement (FTA) with Japan that eliminated the 6% import tariff on Australian watermelons and reduced the tariff on other melons to 3%, which has since declined to 0%.

Industry production

FIGURE 5. Melon production, 2012/13 to 2019/20

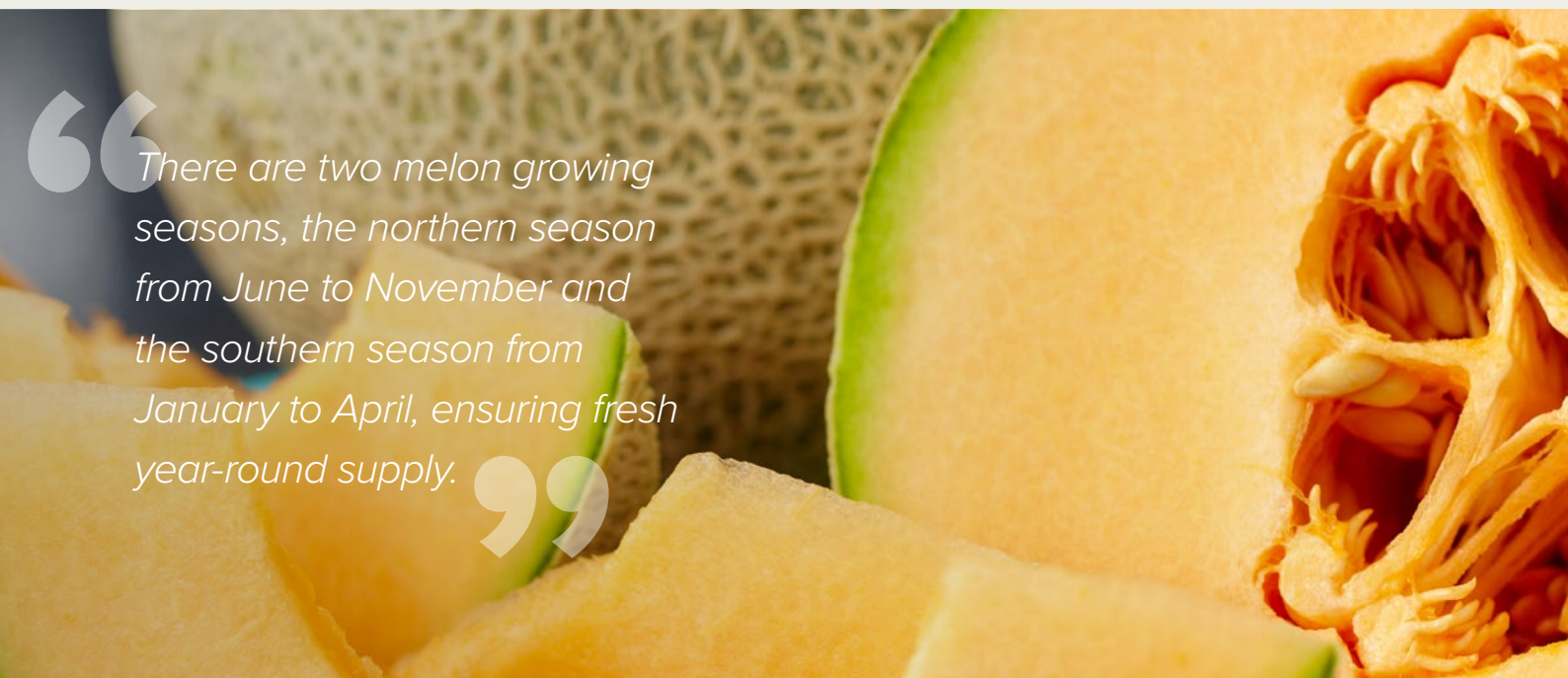


Source: Australian Horticulture Statistics Handbook (2019/20)

190,024 tonnes of melons were grown in 2019/20, valued at \$151.2 million. Watermelons account for 69% of production volume, with this proportion remaining stable over the past eight years.

The production of melons grew consistently up until the peak of 231,146 tonnes in 2016/17, however since then production has decreased by 22% (41,122 tonnes) to 190,024 in 2019/20.

Production value, however, had a large decline from 2016/17 to 2017/18 from \$172 million to \$124 million, but then rebounded to \$152 million in 2019/20. This indicates that there have been stronger prices over the past two years, leading to an increase in value even while volume has decreased.



“There are two melon growing seasons, the northern season from June to November and the southern season from January to April, ensuring fresh year-round supply.”

APPENDIX 2: Melon industry situation analysis

At the time of refreshing the SIP in 2021, the global coronavirus (COVID-19) pandemic continues to affect horticulture industries to varying degrees. Although the outcome and ultimate impact of the pandemic are unknown, areas of investment across horticulture that may be influenced over the period of this SIP include export and trade relationships, domestic and international demand, logistics and supply chain, labour supply – all having potential impacts on grower profitability.

Environmental, economic and social sustainability are vitally important to Australian horticultural growers and industries. Customers, consumers, and investors also seek information about the sustainability and ethics of how their food is produced. Sustainability is particularly crucial as topics such as climate variability, health and ethics continue to shape the social, environmental, and political landscape for agricultural industries. The impact of these issues may have influence on a whole range of investment areas for horticulture from production practices and land management, demand and reputation of products, quality expectations and cultural/community engagement.

Strengths, weaknesses, opportunities and threats

Table 4 has been used to analyse the melon industry's strengths, weaknesses, opportunities, and threats (SWOT). The SWOT tool assists the industry to build on what works, observe what is lacking, minimise risks, and take the greatest possible advantage of chances for success.

TABLE 4. Melon SWOT analysis

The melon industry	
Strengths	<ul style="list-style-type: none"> • Melons are a highly recognisable product, positively associated with the "Australian lifestyle" • Industry awareness and interest in developing new export markets • Increasing export capabilities • Diversity of production regions enable supply year-round • R&D levy funds are available for production and consumer research • R&D biosecurity levy • Melons have an established and diversified markets across retail and foodservice • Melons are competitively priced compared to other fruits • Melons have an established positive image as a fruit that appeals to children • A cohesive industry with well-developed whole-of-industry communications • Opportunities for the supply chain to be members of a national industry service organisation (AMA) • Significant participation and membership of the supply chain in industry service organisations • Coordinated national approach to work directly with growers to protect and improve on-farm biosecurity • Large quantities of melons can be produced at relatively low cost

The melon industry

Weaknesses

- Undemanding barriers for entry often result in national production quantity, the number of commercial growers and gross value of production varying markedly from year to year
- Access to high value export markets such as Korea is limited due to biosecurity status (e.g., fruit fly)
- Not all businesses along the supply chain are participants or members of industry service organisations
- Uncertain or outdated understanding of melon consumers (most recent research was 2007)
- Variable pattern of consumer consumption across the year, with significantly lower consumption during winter months
- Differing growing practices between farms resulting in variable product quality
- Inconsistent eating quality
- Supply often exceeding demand in the domestic market
- Unreliable data on the volumes of melons being planted in different regions creates uncertainty on supply forecasts
- Lack of awareness of specific health benefits related to melon consumption
- Whole melons (specifically watermelon) are too large for many consumers
- Declining and/or uncertain access to crop protectants needed for optimal production and biosecurity management
- No specific industry marketing funds are available
- Variable quality of relationships and information flows between members of the supply chain
- Limited capacity to manage major industry crisis events (e.g. recent disease that impacted human health)
- Food safety and integrity for rockmelons

Opportunities

- Increase consumption of melons during off-peak (cooler) season, when there are less fruit alternatives in the market
- High value export markets for Australian melons – five countries with growth potential have been identified (Malaysia, Maldives, Korea, Japan, Hong Kong)
- Consumer assurance on product integrity and sustainability
- Research into, and communication of the nutritional benefits of melons
- Growing demand for Australian melons in overseas markets (e.g., Southeast Asian markets)
- Improvement to quality standards and taste to have greater consistency and grow consumer confidence in product and new markets
- Tailoring of production through in-field variety trials specific to major regions
- Research into consumer perceptions and preferences of the melon industry to measure consumer attitudes towards product (e.g., variety, size, taste)
- Consumers connecting with products and businesses online and via social media
- Increasing consumer demand for safe food
- Increase in consumer association of natural foods with good health
- Consumer awareness/expectation of environmentally sustainable production
- Supermarkets seeking to create productive relationships with suppliers
- Increase awareness of existing and available R&D to improve productivity across the value chain
- Promotion of adoption of viable, innovative R&D options
- Best practices to ensure fruit quality at each stage of value chain
- Production and testing of new cultivars for domestic market
- Using new crop production techniques (e.g., protected cropping methods)

The melon industry

Threats

- Rising costs of production (labour, electricity) along with government charges and regulatory 'red tape'
- Reducing margins and competitiveness
- Food safety outbreaks threaten industry productivity, profitability and reputation both with domestic and international markets
- Periodic oversupply of melons to the domestic market drives down prices
- Lower cost overseas competitors to supply growing export markets
- Growing competition from other fruits with consistent eating quality and year around availability
- Consumer difficulty in distinguishing melon eating quality at point of sale
- Uncertainty on water allocations and cost
- Declining and/or uncertain access to crop protectants needed for optimal production and biosecurity management
- Climate change and regional variability in growing conditions
- Biosecurity breaches impact on market access and costs of production
- There are unclear biosecurity conditions in countries that supply seed



APPENDIX 3: People consulted

The following people are acknowledged for their contribution to the melon SIP development process.

NAME	INDUSTRY ROLE	REGION
Terry O'Leary	Grower; Deputy Chair, Australian Melons Association, Melon SIAP member	New South Wales
Fernando Rombola	Grower; Melon SIAP member	New South Wales
Paul McLaughlin	Grower; Chair, Australian Melons Association; Melon SIAP member	Northern Territory
SP Singh	Researcher; Melon SIAP member	New South Wales
Chris Jowett	Grower	Western Australia
Jon Caleo	Grower	Queensland
Jamie Schembri	Grower	New South Wales
Brad Dawson	Grower; Melon SIAP member	Victoria
Kane Youngusband	Grower; Melon SIAP member	Western Australia
Dane Capogreco	Grower	Western Australia
Andrew Martens	Grower	Queensland
Sib Rapisarda	Grower	Queensland
Anthony Joseph	Grower; Melon SIAP member	Queensland
Johnathon Davey	CEO, Australian Melons Association	Victoria
Belinda Boshammer	Marketer	Queensland
Joanna Embry	Biosecurity Officer, Australian Melons Association	Queensland
Rohan Sippel	Supplier	Queensland
Damian Odgers	Supplier	New South Wales
Leith Plevey	Supplier	Queensland
Fiona Constable	Researcher	Victoria
Brendan Hays	Retailer	Victoria

APPENDIX 4: Reference material

Horticulture Innovation Australia Limited, 2012, Melon Strategic Investment Plan 2017-2021

Horticulture Innovation Australia Limited, 2019, Growing into the Future: Strategy 2019-2023

Horticulture Innovation Australia Limited, 2020, Australian Horticulture Statistics Handbook 2019/20

Horticulture Innovation Australia Limited, 2021, Australian-grown Horticulture Sustainability Framework

Melons Australia, 2021, <https://www.melonsaustralia.org.au/>



APPENDIX 5: List of acronyms

AIP	Annual Investment Plan
AMA	Australian Melons Association
APVMA	Australian Pesticides and Veterinary Medicines Authority
BMP	best management practice
CGMMV	cucumber green mottle mosaic virus
CSIRO	Commonwealth Scientific and Industrial Research Organisation
FTA	Free Trade Agreement
FY	financial year
GI	glycemic index
IRB	Industry Representative Body
KASA	knowledge, attitudes, skills and aspirations
KPI	key performance indicator
M&E	monitoring and evaluation
MRL	Maximum Residue Limit
NHRN	National Horticulture Research Network
NSW DPI	NSW Department of Primary Industries
R&D	research and development
RDC	Research and Development Corporation
RD&E	research, development and extension
SARDI	South Australian Research and Development Institute
SARP	Strategic Agrichemical Review Process
SIAP	Strategic Investment Advisory Panel
SIP	Strategic Investment Plan
SWOT	strengths, weaknesses, opportunities and threats



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