

Melon

STRATEGIC INVESTMENT PLAN

2018-2021



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Introduction

This Strategic Investment Plan (SIP) is the roadmap that helps guide Hort Innovation's oversight and management of individual levy industry investment programs. The SIP lays the foundation for decision making in levy investments and represents the balanced interest of the particular industry from which the levy is collected. The very important function of the SIP is to make sure that levy investment decisions align with industry priorities.

Horticulture Innovation Australia Limited (Hort Innovation) is the not-for-profit, grower-owned research and development (R&D) and marketing company for Australia's \$9 billion horticulture Industry.

As part of the role Hort Innovation plays as the industry services body for Australian horticulture, the organisation is tasked by the Australian Government with working alongside industry to produce a strategic plan for investment of levies in industry research and development (R&D) and marketing activities.

Each individual levy industry investment strategy also speaks to the future growth and sustainability of the Australian horticulture industry, as a whole. The SIPs are produced under the umbrella of the Hort Innovation Strategic Plan, which takes a whole of industry view in setting its direction, as it considers broader agriculture government priorities for the advancement of Australian horticulture.

The process in preparing each SIP was managed by Hort Innovation and facilitated in partnership with Industry Representative Bodies and Strategic Industry Advisory Panels (SIAP). Independent consultants were engaged to run the consultation process, to gather the advice from stakeholders impartially and produce a plan against which each levy paying industry can be confident of its strategic intent. The SIP was therefore produced in conjunction with industry through a process of consultation which included a broad melon industry survey and representation from all states and territories.

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

The melon industry SIP

The Australian melon industry Strategic Investment Plan 2018-2021 has been developed to provide a clear direction for the advancement of the Australian melon industry and to define the key outcomes required from the investment of industry and government funds over the next five years.

As of 1 January 2017 a melon levy and charge was introduced to all melons produced in Australia, sold by a producer or

exported. The levy and charge rates total 0.4 cents per kilogram and fund biosecurity projects, membership to Plant Health Australia (PHA), and R&D. Horticulture Innovation Australia Limited (Hort Innovation) and PHA are responsible for the expenditure of the melon levy and charge¹.

The levy was introduced in response to several biosecurity challenges, such as the incursion of the cucumber green mottle mosaic virus (CGMMV) in the Northern Territory in 2014 and detections in Queensland in 2015. These challenges highlighted the threat the Australian melon industry faced from exotic pests, as well as the risks from an industry point of view of not being a signatory to the Emergency Plant Pest Response Deed (EPPRD)².

Additionally, changes to research and development funding for horticulture meant the ability of the melon industry to deliver long-term, targeted and strategic R&D was severely impacted. Over the last decade, investment has focused on research to directly influence the performance of production businesses.

The introduction of a levy allowed for the creation of a sustainable source of funds for the melon industry for research, development and extension activities that aim to improve the productivity and profitability of the melon industry. The levy also contributes to PHA and Emergency Plant Pest Response (EPPR) for national biosecurity projects and initiatives.

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

This plan represents the Australian melon industry's collective view of its R&D needs until 2021 to encourage the growth and profitability of the industry. This plan has been developed in consultation with Australian melon levy payers through a synthesis of desktop research, along with interviews and research with growers and value chain firms.

The melon SIAP has responsibility for overseeing the industry's SIP and providing strategic investment advice to Hort Innovation. The strategic investment priorities identified in this plan will guide the decisions of Hort Innovation and the panel.

¹ Department of Agriculture and Water Resources (2017) *Melon levy and charge*. <http://www.agriculture.gov.au/ag-farm-food/levies/rates/melon>.

² Fullelove, D. Australian Melon Association Inc. (AMA) (2017) *Development of the Australian Melon Industry through communication and market focused activity*. Hort Innovation, p. 9

Melon

STRATEGIC INVESTMENT PLAN

2018-2021 **AT A GLANCE**

POTENTIAL IMPACT OF THIS PLAN



OUTCOMES	STRATEGIES
By 2021, improved consumer perceptions of melon quality have supported increased domestic demand	Conduct regular consumer research to gather insights on changing perceptions and expectations of fresh Australian melons
	Collate and distribute evidence of the positive product health attributes of Australian melons
	Improve the reliability and consistency of year-round eating quality of Australian melons
By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns for growers	Document and share evidence of industry-wide practices that strengthen and assure the safety and integrity of melon products
	Promote the use of existing R&D and proven management practices that improve on-farm efficiency and increase profitability
By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns for growers	Undertake R&D and extension to enhance product quality, consistent with evidence of consumer expectations (with a focus on harvest and post-harvest)

OUTCOMES	STRATEGIES
<i>Continued</i>	Develop applied research and innovation in melon growing systems for sustainable production and biosecurity management
	Continual improvement in practices and processes that mitigate pest and disease threats
By 2021, the Australian melon industry has developed and maintained export market opportunities, enabling increased returns to growers	Develop and improve technical market access for Australian melons into priority markets
	Maintain and improve trade with existing export markets, especially where opportunities exist in the premium end of the market
	Support export market demand through timely and accurate data, information and market research
By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including food safety and biosecurity	Collaborate with whole of industry supply chain firms to identify and prioritise biosecurity and food safety risks
	Raise awareness of biosecurity and food safety risks across the value chain, through educational programs, on-site training and monitoring and evaluation
	Develop, distribute and implement an industry-wide risk mitigation plan to minimise and prevent biosecurity and food safety incidents
	Collaborate with whole of industry supply chain to implement workable prevention and best practice procedures
By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including food safety and biosecurity	Develop and implement risk monitoring and traceability systems for early detection and rapid response
	Support and complement the initiatives of the biosecurity levy

Melon

STRATEGIC INVESTMENT PLAN

2018-2021 AT A GLANCE

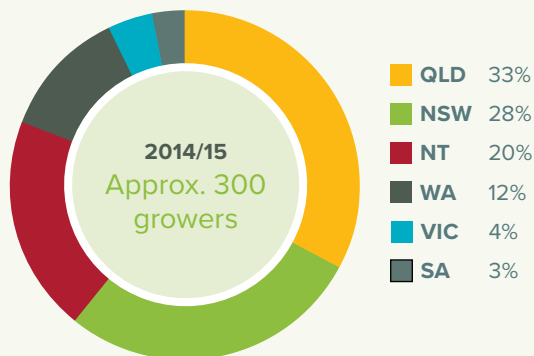
Major opportunities

- High value export markets for Australian melon
- Growing export capabilities
- Highly recognisable and competitively priced product
- Increasing consumer demand during cooler season
- Improving quality standards and consistency
- Improving capacity to manage major industry crisis events
- Increasing awareness and adoption of available R&D

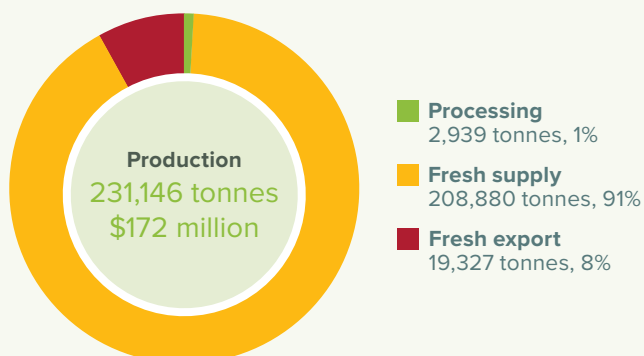
Major challenges

- Rising costs of production
- Food safety outbreaks
- Access to high value export markets with biosecurity barriers
- Variable eating quality
- Periodic oversupply and accurate supply forecasts
- Changes and variability in growing conditions
- Declining/uncertain access to crop protectants

Industry size and production distribution



Melon supply chain and value 2016/17



1

SECTION ONE

Context

The Australian melon industry

The Australian melon industry has evolved in response to a changing business environment and shifting patterns of consumer demand. The implementation of a dedicated levy from 1 January 2017 has provided the impetus for developing this SIP.

Products

Melons are fleshy fruit that are members of the Cucurbitaceae family. Melons are considered to include fresh: watermelon (*Citrullus lanatus*), rockmelon (*Cucumis melo*), honeydew melon (*Cucumis melo* var. *inodorus*), Galia melon (*Cucumis melo* var. *reticulatus*), horned melon (*Cucumis metuliferus*), charentais melon (*Cucumis melo* var. *cantalupensis*), Korean melon (*Cucumis melo* var. *makuwa*), hami melon (*Cucumis melo* var. *reticulatus*) and piel de sapo (*Cucumis melo* var. *inodorus*).

Three major melon types are produced in Australia; watermelon, honeydew melon and rockmelon. These three major varieties will be the focus of this SIP, however, many different cultivars of these species are grown according to consumer preferences and market conditions. When ripe, the sweet juicy pulp is predominantly eaten fresh and there is a value-added fresh-cut market. The rind is sometimes preserved and seeds can be roasted as a snack or ground into an ingredient used in oils and sauces.

Seedless watermelon forms the industry standard and have proven popular with consumers. Therefore, production has steadily increased to meet demand. The seedless watermelon category has experienced significant growth over the last decade, and is now a mature market segment. Watermelon constitutes approximately 60 per cent of Australian melon production.

Sales of rockmelon and honeydew melon have also increased with a strong capacity for exporting. Rockmelon is the second largest melon variety produced in Australia with 30 per cent of production, followed by honeydew melon at 10 per cent. Gold honeydew and piel de sapo fruit are also increasing in popularity with Australian consumers and are being grown in increasing volumes³, but still remain less than 1 per cent of the the total melon volume.

Industry information and knowledge

The Australian melon industry consists of approximately 300 growers producing a total of around 200,000 tonnes of melon annually across an area ranging from 6,000 to 8,000 hectares. The number of melon growers and area cultivated for melons in Australia can fluctuate from season to season, 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 choose to grow when wholesale prices are high, and otherwise grow alternative crops when prices are low⁴.

The production of melon can be variable year to year, with 183,000 tonnes produced in 2011-2012, while in 2012-2013 production increased substantially to 249,000 tonnes. In 2013-2014 production dropped back to 227,000 tonnes⁵ and 231,146 tonnes of melon was produced for the year ending June 2017⁶.

³ Plant Health Australia Limited (PHA) (2015) *Business case to support the establishment of melon industry statutory levies*. AMA AgEcon Plus Consulting.

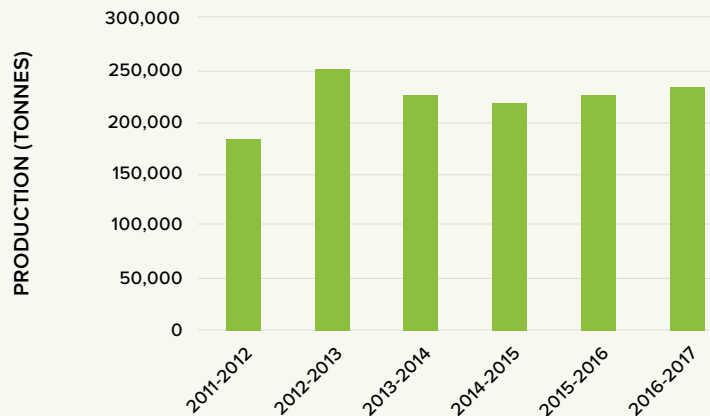
⁴ PHA (2015) *Business case to support the establishment of melon industry statutory levies*. AMA AgEcon Plus Consulting, p. 9

⁵ Fullelove, D. (2017) *Strategic Investment Plan 2016-2021*. AMA p. 8.

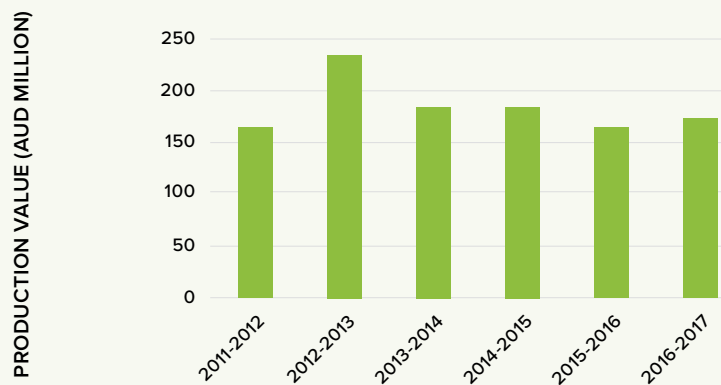
⁶ Hort Innovation (2018) *2016/17 Australian Horticulture Statistics Handbook 2016/17: Fruit*. p. 142.

Figure 1: Total melon production summary, 2011-2017

(Source: Hort Innovation (from Australian Horticulture Statistics Handbook 2015/16 – 2016/17), AMA)

**Figure 2: Melon industry value of production summary, 2011-2017**

(Source: Hort Innovation (from Australian Horticulture Statistics Handbook 2015/16 – 2016/17), AMA)



While the industry's production volumes can fluctuate, for the most part production has remained steady over the last five years (*Figure 1*).

Much like the melon production volume seen in *Figure 1*, the total value of production (measured by farm gate value) can vary year to year, however in the last five years has remained reasonably consistent, with some exceptions.

Figure 2 shows that for the period 2011-2012 the Australian melon industry had a production value of \$165 million, which rose significantly in the following year 2012-2013 to a production value of \$234 million⁷. The year ending June 2017 had a production value of \$172.4 million, while the wholesale value of the fresh melon supply was \$170.8 million⁸.

7 Australian Bureau of Statistics (2017) 7503.0 – Value of Agricultural Commodities Produced, Australia, 2015-16. <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/7503.02015-16?OpenDocument>.

8 Hort Innovation (2018) Australian Horticulture Statistics Handbook 2016/17: Fruit, p. 142.

Figure 3: Fresh melons supply chain – year ending June 2017

(Source: ABS; AC; AMA; CFVIWA; GTA; MP & DD (Freshlogic Analysis); Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

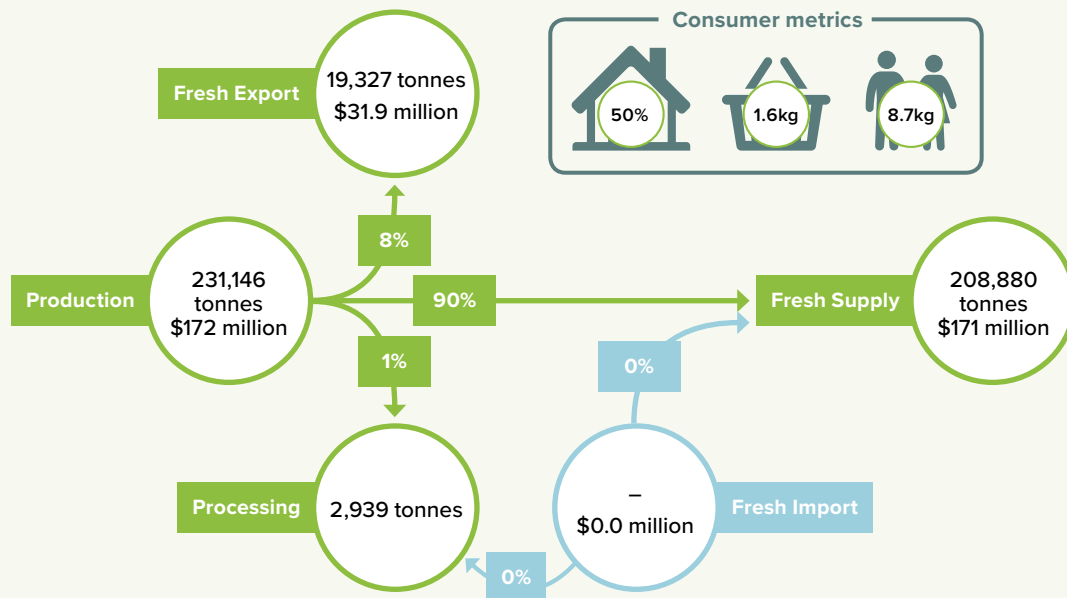


Figure 3 demonstrates the fresh melon supply chain for the year ending June 2017. The supply chain model shows that the majority of melon production (90 per cent) is directed towards the domestic fresh supply of melon, while 8 per cent is distributed to fresh export and 1 per cent to processing. **Figure 3** also highlights that the Australian melon industry has seen no fresh imports of melons for the year ending June 2017. Due to a sufficient domestic supply of melon there have been no recorded imports of fresh melon to the Australian market since 2015.

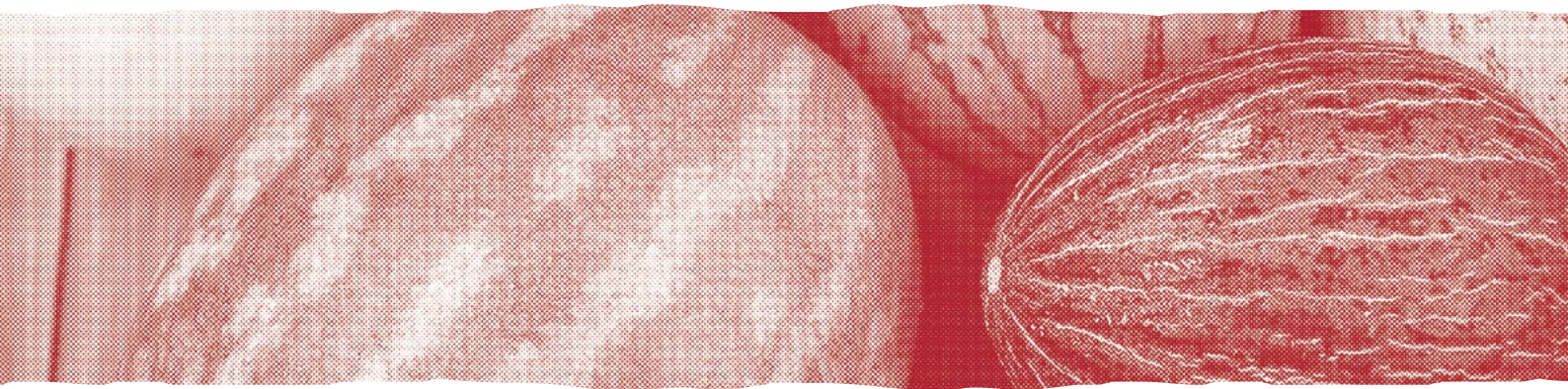


Figure 4: Australian melon production areas, 2013-2014 (Source: AMA)



Melon growing regions

Queensland (Ayr, Bowen, Bundaberg and Chinchilla) is the largest producer of melons in Australia, with New South Wales (Griffith, Hay, Cowra and Sunraysia), Northern Territory (Darwin, Mataranka, Central Australia and Katherine) and Western Australia (Kununurra, Carnarvon, Broome, Geraldton and Perth) also producing large quantities of melons. Victoria (Mildura and Swan Hill) and South Australia (Waikerie) produce lower, but still significant volumes.

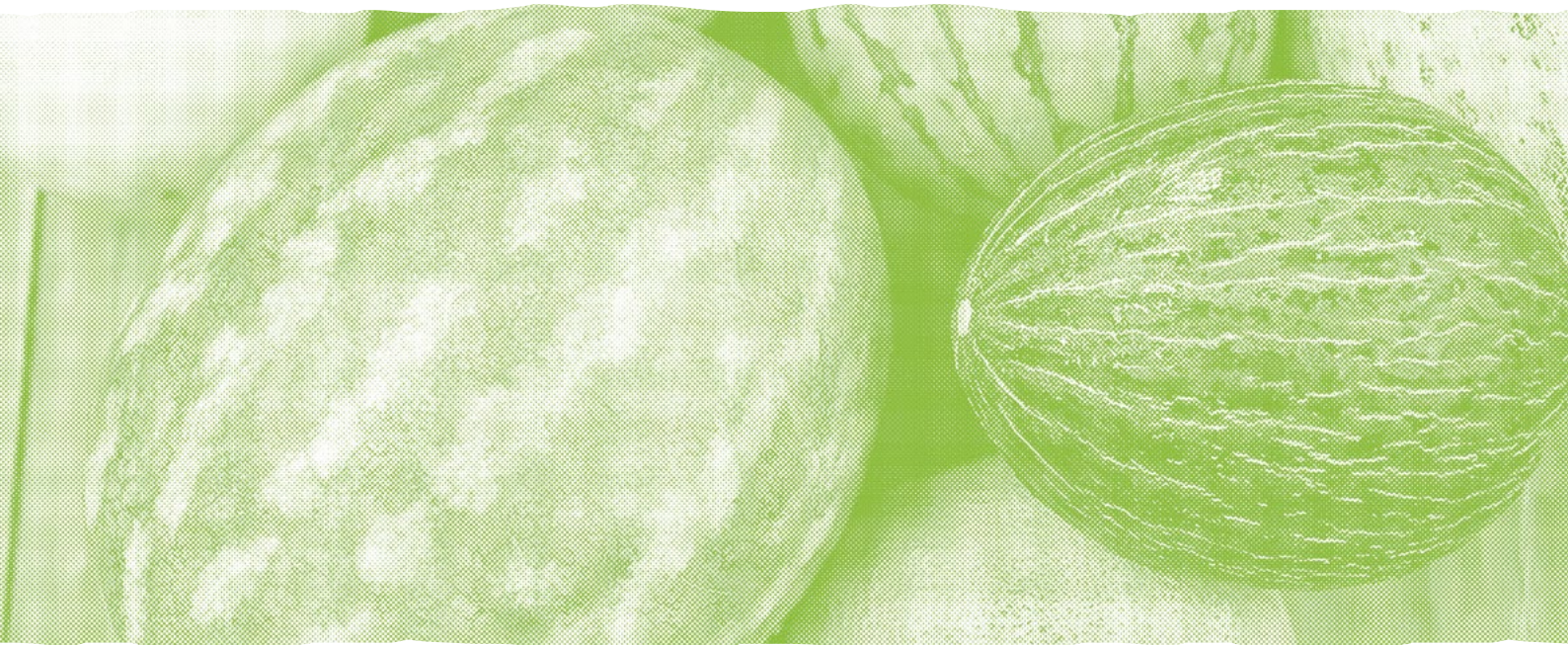


Figure 5: Major rockmelon and honeydew melon production areas, 2016-2017

(Source: AMA; Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

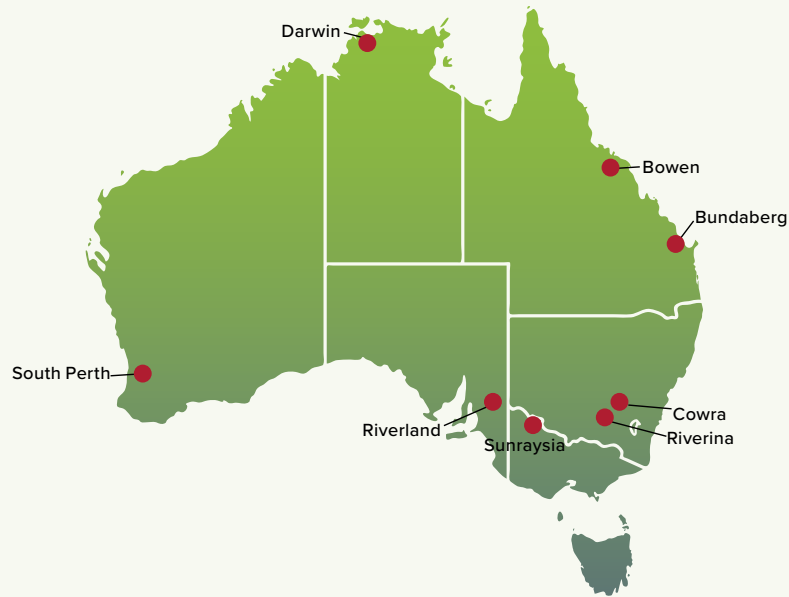
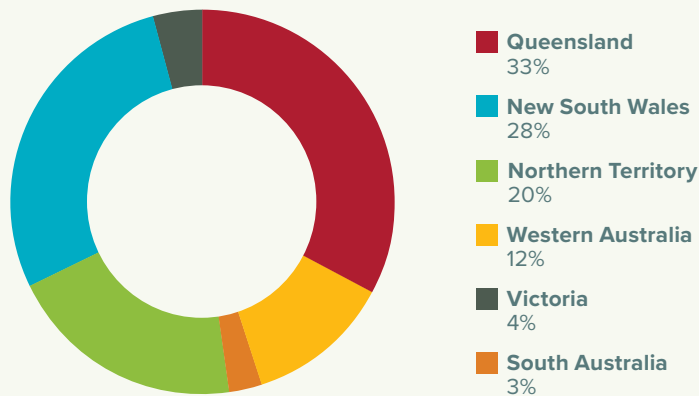


Figure 6: Fresh rockmelon and honeydew melon production by state, 2016-2017

(Source: AMA; Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))



Rockmelon and honeydew melon

Rockmelon and honeydew melon are grown across most states in Australia, with the majority produced in the northern Australian states. The major producing areas include Bowen and Bundaberg in Queensland; the Darwin region in the Northern Territory; Cowra and Riverina in New South Wales; the Riverland region of South Australia; Sunraysia in Victoria; and South Perth in Western Australia. **Figure 5** and **Figure 6**

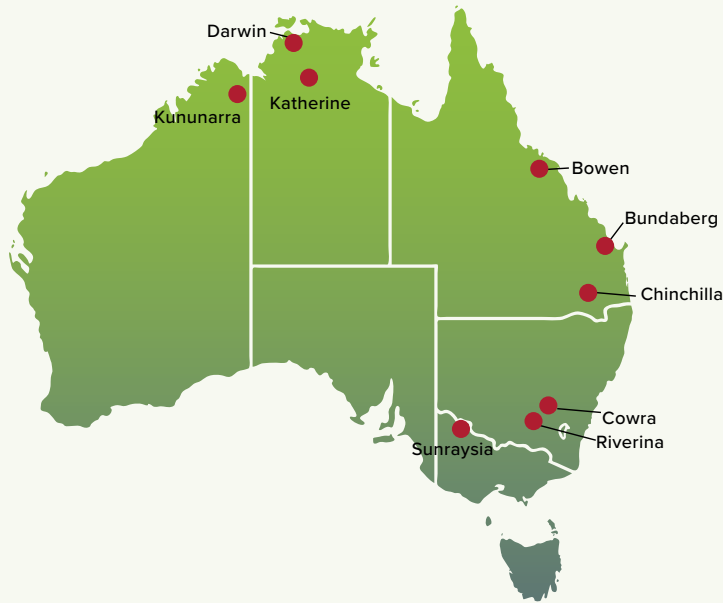
show the major Australian melon production areas and the percentage of melons produced per state in 2016-2017.

For the category of ‘other melons’ (which refers to rockmelon and honeydew melon), rockmelons accounted for 87 per cent of fresh production for the year ending June 2017 and honeydew melons accounted for 13 per cent of fresh production for the same period⁹.

9 Hort Innovation (2018) *Australian Horticulture Statistics Handbook 2016/17: Fruit*. p. 146.

Figure 7: Major watermelon production areas, 2016-2017

(Source: AMA; Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

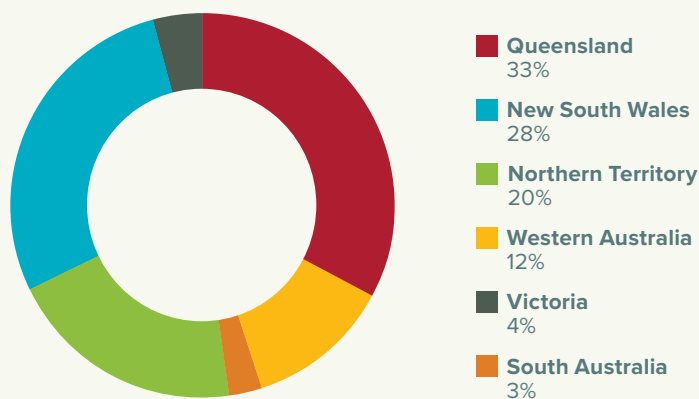


Watermelon

Watermelon is grown across most states in Australia, with the majority produced in the northern Australian states. The major producing areas include Bundaberg, Bowen, and Chinchilla in Queensland; Darwin and Katherine in Northern Territory; Riverina and Cowra in New South Wales; and Kununarra and Carnarvon in Western Australia. **Figure 7** and **Figure 8** show the major Australian watermelon production areas and the percentage of watermelon produced per state in 2016-2017.

Figure 8: Fresh watermelon production by state, 2016-2017

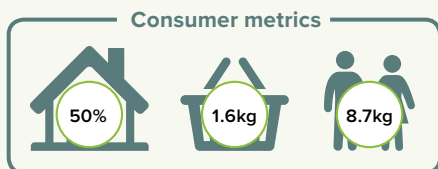
(Source: AMA; Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))



Domestic consumption and demand

For the year ending June 2017, 50 per cent of Australian households purchased fresh melon, buying an average of 1.6 kilograms per shopping trip. Based on the volume supplied, the annual per capita consumption of melon was 8.7 kilograms¹⁰ (**Figure 9**).

Figure 9: Consumer metrics for melons



(Source: Hort innovation (from Australian Horticulture Statistics Handbook 2016/17))

Melon consumption in Australia has been ranked seventh highest in comparison to other fruits such as banana, apple, grape, orange, stonefruit and mandarin¹¹.

There is scope for further growth in per capita consumption of melon. Research undertaken in 2009 suggests that around 20 per cent of the people who buy melons choose not to purchase during the winter months¹². Therefore, in the summer period 20 per cent more melon buyers are active.

Not only are there a greater quantity of melon buyers in the summer, but summer buyers can also be seen to buy more frequently and purchase more fruit when they shop, so the average fruit per melon buyer increases from 1.1 kilograms in the winter months to approximately 1.5 kilograms in the summer months.

Dedicated consumer research of the melon industry was last undertaken in 2007 and found that the capacity for purchasing melons during the summer season has not been reached, with buyers limiting their purchase due to reasons such as price, saliency and physical issues such as carrying and storing the fruit¹³. The consumer research is outdated, having been completed over 10 years ago. New consumer research will be required to confirm whether these findings remain relevant for contemporary shoppers.

In a recent survey of Australian melon industry levy payers, a majority of respondents (78 per cent) indicated that they believe having access to current consumer research would positively impact business decisions, production practices or business profitability¹⁴. Public knowledge of the relationship between melon varieties and a specific health claim is limited. Consumers surveyed in 2007 generally listed melon as 'healthy, because eating fruit is generally healthy' or 'rich in vitamins and mineral, but don't know which'¹⁵.

The 2007 consumer research report showed the major challenges and barriers for purchasing fresh melon included:

1. **Price:** consumers view price as a barrier to purchase and particularly see a rise in price during the winter season
2. **Saliency:** with approximately 25 per cent of consumers not considering melon as a first purchase option, or as an option during the winter months
3. **Physical issues:** particularly in the summer season, consumers list storage and shelf life issues as the main barriers to increasing their consumption of fresh melon.

If new consumer research is undertaken and also shows that the consumer purchase barriers continued to be price, saliency and physical issues, then the implication would be that there are opportunities to increase demand and consumption of melons. In particular, by:

- Promoting the nutritional benefits of melons
- Appealing to the melon buyers who are inactive during the winter months.

Results from the Australian Melon Industry Survey¹⁶ showed that 70 per cent of respondents believe that an increase in domestic consumer demand over the next three years would positively impact all businesses across the supply chain.

10 Hort Innovation (2018) *Australian Horticulture Statistics Handbook 2016/17: Fruit*, p. 142.

11 (2009) *Australia Melon Industry Situation Report*. http://www.melonsaustralia.org.au/documents/Statistics/Statistics_Melon_%20Industry_Situational_Report_2009.pdf P. 6

12 (2009) *Australia Melon Industry Situation Report*. http://www.melonsaustralia.org.au/documents/Statistics/Statistics_Melon_%20Industry_Situational_Report_2009.pdf P. 4

13 Bread & Butter Research & Planning (2007) *Project Quest: Summary Report: Winter Wave*, P. 8

14 Inovact Consulting (2018) *Australian Melon Industry Survey*, Hort Innovation, P. 31

15 Bread & Butter Research & Planning (2007) *Project Quest: Summary Report: Winter Wave*, P. 44

16 Inovact Consulting (2018) *Australian Melon Industry Survey*, Hort Innovation, P. 24

Biosecurity and food safety

The Australian melon industry has largely been free from exotic pests and diseases, although recent biosecurity incidents have had a significant impact on the industry.

The Melon Industry Biosecurity Plan¹⁷ identified more than 65 exotic plant pests that could cause damage to the melon industry. Of these 65 exotic pests, 11 were identified as high priority pests, and included pests such as exotic fruit flies (*Bactrocera cucurbitae*, *B. invadens* and *B. latrifons*), exotic leaf miners (*Liriomyza bryoniae*, *L. huidobrensis*, *L. sativae* and *L. trifolii*) and pathogens such as cucurbit bacterial wilt (*Erwinia tracheiphila*).

High priority pests are considered likely to enter Australia, spread and establish, as well as cause economic harm to the melon industry. One of these pests, vegetable leaf miner (*L. sativae*) was detected in Cape York in May 2015, while other leaf miner pests have been detected in neighbouring countries as recently as 2018.

The cucumber green mottle mosaic virus (CGMMV) is an example of the present threat of pest incursions in the Australian melon industry. Watermelons infected with CGMMV were first detected on multiple farms in the Northern Territory in 2014, as well as detection on a Queensland farm in 2015. Unfortunately, this pest was unable to be eradicated and has subsequently caused social and economic harm to melon growers in affected areas, as well as uncertainty for growers in other areas.

Food safety incidents linked to rockmelon 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 melon in Australia reportedly fell by up to 90 per cent and led to the closure of export markets in Indonesia and Singapore¹⁸.

Following the outbreak of *Listeria monocytogenes* in early 2018, the Australian melon industry and its stakeholders have been increasingly concerned with the challenge biosecurity and food safety hazards pose to industry profitability over the next three to five years. In a recent survey of melon levy payers, respondents chose biosecurity and food safety as the greatest issue facing the industry¹⁹.

Industry services and leadership

The formation of Horticulture Innovation Australia Limited (Hort Innovation) represents a fundamental change to the services system for melon growers, with levy payers now having the opportunity to join Hort Innovation directly as members.

Beyond membership to Hort Innovation, the melon industry is also represented by the Australian Melon Association Inc. (AMA) which was formed in 1994 and has a dedicated industry development capacity.



17 PHA (2014) *Industry Biosecurity Plan for the Melon Industry*. <http://www.planthealthaustralia.com.au/industries/melons/>.

18 Cloughton, D. (2018) *Rockmelon listeria outbreak: Industry demands grower be named after melon demand drops 90pc*. ABC Country Hour, <http://www.abc.net.au/news/rural/2018-03-12/rockmelon-industry-wants-grower-named-after-listeria-outbreak/9539238>.

19 Inovact Consulting (2018) *Australian Melon Industry Survey*. Hort Innovation. P. 16

Figure 10: Net fresh melon international trade, 2016-2017 (Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

International trade

Market analysis shows that the international trade in melon is steadily increasing²⁰. As a net melon exporter, for the year ending June 2017 Australia exported 19,327 tonnes of fresh melon, as profiled in **Figure 10**, where imports are counted as negative tonnes.

In 2017 Australia exported fresh melon to approximately 23 countries. Compared to the global average of US\$0.74 per kilogram (AUD\$0.99 per kilogram)²¹, Australian melon exports achieved an average free-on-board export price of \$1.65 per kilogram, 65 per cent higher than the global average.

Rockmelons and honeydew melons contributed the majority of tonnes exported in 2017 (68 per cent) and the majority of value (73 per cent). Watermelons accounted for 32 per cent of tonnes exported and 27 per cent of total export value for the year.

The total export value of Australian melon has grown at a consistently strong rate over the last decade, as profiled in **Figure 11**.

While the quantity and price of melon exported from Australia is growing, melons are considered as a fruit fly host, and therefore quarantine restrictions in major export markets such as Korea have meant that export market access can be difficult or limited.

A Melon Export Plan²² was developed in 2017 which identifies five priority markets to grow Australian international melon trade by US\$15.6 million within the next three years. The markets identified for growth include Republic of Korea, Malaysia, Japan, the Maldives and Hong Kong.

Furthermore, in 2016, Australia's Free Trade Agreement with Japan eliminated Japan's 6 per cent import tariff on Australian watermelon and reduced the tariff on other melons to three per cent (scheduled to decline to zero by 1 April, 2019)²³.

20 Hort Innovation (2018) *Australian Horticulture Statistics Handbook 2016/17: Fruit*, p. 143.

21 Burrows, D. (2017) *Export Strategy and Plan for Australian Melons*. http://www.melonsaustralia.org.au/Industry/documents-and-reports/Export_Melon%20Export%20Plan_November2017.pdf.

22 APCO (2017) *Export Strategy and Plan for Australian Melons: A Market Analysis and Market Entry Report prepared by APCO Worldwide for the Australian Melon Association*.

23 Euromonitor Consulting (2017) *Melons in Japan: Final Report*. Compiled by Euromonitor International for the AMA, p. 3.

Figure 11: Melon export value, 2016-2017 (Source: IHS Global Trade Atlas (2017))

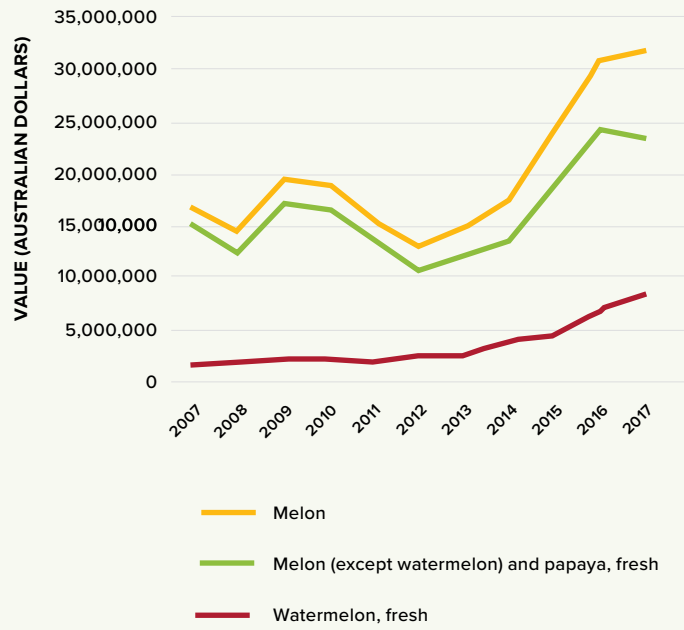


Figure 12: Net fresh rockmelon and honeydew melon international trade, 2016-2017

(Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

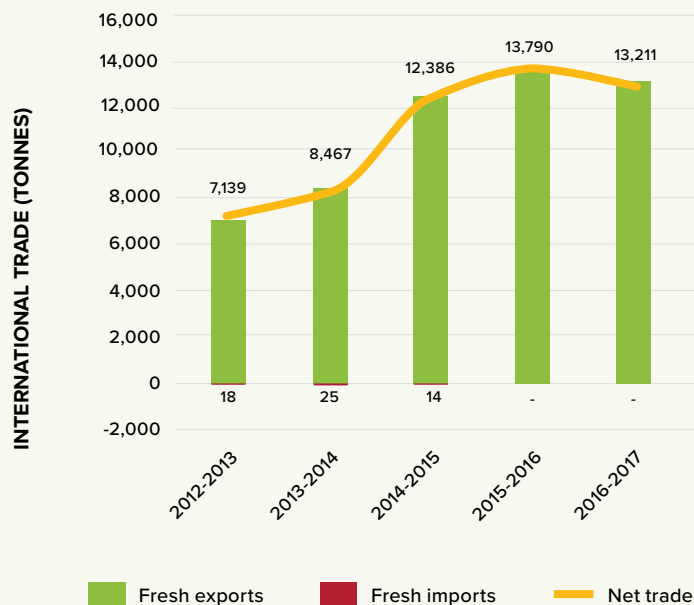
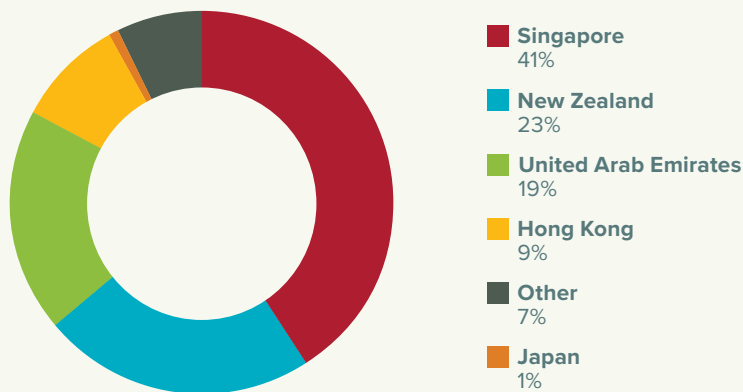


Figure 13: 2016/17 Fresh rockmelon and honeydew melon exports by country, 2016-2017

(Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))



Rockmelon and honeydew melon international trade

Australia exports between 8,000 to 14,000 tonnes of fresh rockmelon and honeydew melon per year, primarily into markets such as Japan where they can be sold as premium products. For the year ending June 2017, Australia exported 13,211 tonnes of fresh rockmelon and honeydew melon. The exports and imports over the last five financial years can be seen in **Figure 12**.

For the year ending June 2017, Australia exported the largest quantity of fresh rockmelon and honeydew melon to Singapore (41 per cent), followed by New Zealand (23 per cent) and United Arab Emirates (19 per cent). **Figure 13** shows the distribution of rockmelon and honeydew melon exports for 2016-2017 and **Table 1** summarises Australia’s fresh imports and exports by country from 2015-2017.

Table 1: Fresh rockmelon and honeydew melon imports and exports by country, 2015-2017*(Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))*

Imports by country (tonnes)			
Year ending June	2015	2016	2017
United States	14	–	–
TOTAL	14	–	–

Exports by country (tonnes)			
Year ending June	2015	2016	2017
Singapore	4,132	4,795	5,442
New Zealand	2,991	3,011	3,005
United Arab Emirates	3,366	3,744	2,475
Hong Kong	1,009	1,259	1,171
Japan	–	–	165
Other	889	982	952
TOTAL	12,386	13,790	13,211



Figure 14: Net fresh watermelon international trade, 2016-2017

(Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

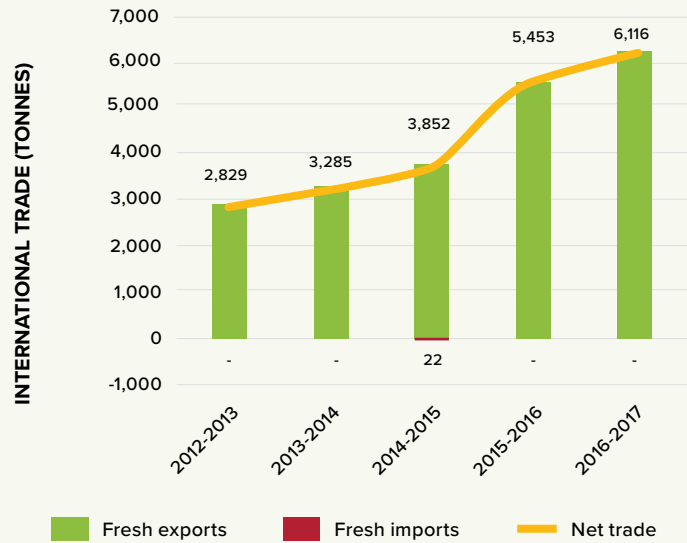
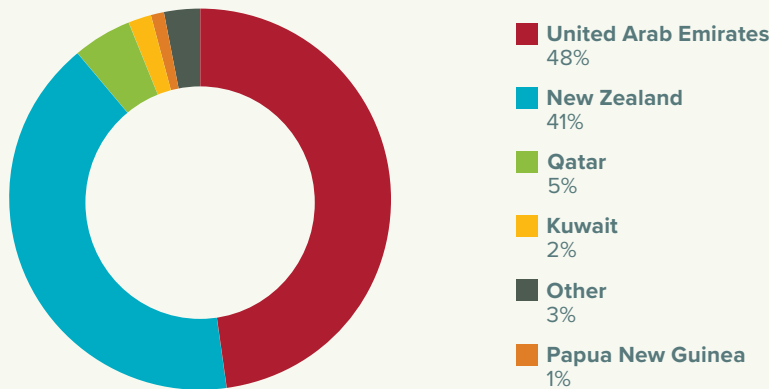


Figure 15: 2016/17 Fresh watermelon exports by country, 2016-2017

(Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))



Watermelon international trade

Export of fresh Australian watermelon has been growing in recent years, with seedless watermelon becoming increasingly popular. For the year ending June 2017, Australia exported 6,116 tonnes of fresh watermelon. The exports and imports over the last five financial years are profiled in **Figure 13**, where imports are counted as negative tonnes²⁴.

For the year ending June 2017, Australia exported the largest quantity of fresh watermelons to the United Arab Emirates (48 per cent) and New Zealand (41 per cent), with only small quantities of watermelon being exported elsewhere.

Figure 16 shows the distribution of watermelon exports for 2016-2017 and **Table 2** summarises Australia’s fresh watermelon imports and exports by country from 2015-2017.

24 Hort Innovation (2018) Australian Horticulture Statistics Handbook 2016/17: Fruit, p. 152.

Table 2: Fresh watermelon imports and exports by country, 2015-2017 (Source: GTA, Hort Innovation (from Australian Horticulture Statistics Handbook 2016/17))

Imports by country (tonnes)			
Year ending June	2015	2016	2017
Other	22	-	-
TOTAL	22	-	-

Exports by country (tonnes)			
Year ending June	2015	2016	2017
United Arab Emirates	1,489	2,550	2,957
New Zealand	2,134	2,385	2,513
Qatar	37	136	269
Kuwait	60	151	141
Papua New Guinea	72	67	78
Other	60	164	158
TOTAL	3,852	5,453	6,116



Operating environment

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 • Growing export capabilities • Diversity of production regions enable supply all year around • R&D levy funds available for production and consumer research • R&D biosecurity levy • Product has established and diverse markets across retail and food service • Product is 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
Weaknesses	<ul style="list-style-type: none"> • 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, for example, 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) 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 available • Variable quality of relationships and information flows between members of the supply chain • Limited capacity to manage major industry crisis events, for example, recent human health disease outbreaks associated with rockmelons

The melon industry	
Opportunities	<ul style="list-style-type: none"> ● Increase consumption of melons during off peak (cooler) season, when there are less fruit alternatives in the market ● There are high value export markets for Australian melons – five countries with growth potential have been identified (Malaysia, Maldives, Korea, Japan, Hong Kong) ● Consumers assurance on product integrity and sustainability ● Research and communicate the nutritional benefits of melons ● Growing demand for Australian melons in overseas markets, for example, Southeast Asian markets ● Improve quality standards and taste to have greater consistency and grow consumer confidence in product and new markets ● Tailor 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, for example, 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 and promote 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, for example, protected cropping methods
Threats	<ul style="list-style-type: none"> ● Rising costs of production (labour, electricity) along with government charges and regulatory 'red tape' reduce margins and competitiveness ● Food safety outbreaks threaten industry productivity, profitability and reputation both with domestic consumers 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 ● Uncertain biosecurity conditions in seed supply country of origin

2

SECTION TWO

Melon industry outcomes

Industry outcomes

The industry outcomes are framed against a broad strategy for the melon industry until 2021, which can be summarised as:

1. **Enable industry growth** based on supply of consistent quality fresh melons that match domestic consumer expectations
2. **Improve on-farm efficiency** to support improved returns to producers
3. **Access and develop selected export markets** for Australian melons
4. **Strengthen biosecurity and food safety measures to protect and enhance industry and product reputation** and support consumer confidence and long-term returns for levy payers.



OUTCOME 1

By 2021, improved consumer perceptions of melon quality have supported increased domestic demand

In the past decade, Australian melon production has met domestic consumer demand with per capita consumption remaining steady.

The strategic intent over the next three years is to support increased consumer demand for fresh Australian melons. A key challenge is to maintain or improve prices as production continues to expand. It means the industry will be investing to:

- Support product positioning through consistent quality
- Share evidence of beneficial product health attributes and responsible industry production practices.

Returns to growers are very dependent on a thriving domestic retail market for fresh melons. Future industry success in the domestic market will involve:

- Systematic collection of up-to-date knowledge of melon consumers and the product attributes they value most
- Rapid sharing of consumer insights and market information across the value chain to help inform business decisions and align melon supply, quality and other attributes with consumer demand
- Supporting growers in their relationships with retailers by providing information about biosecurity and food safety
- Meeting or exceeding consumer expectations for consistent quality melons at point of sale.

OUTCOME 2

By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns to growers

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

- Accelerating widespread access to and use of existing R&D findings and proven management practices that will help growers to reduce the costs associated with pests, weeds and diseases;
- Strong emphasis on developing new applied research and innovation in melon growing systems for sustainable production, food safety and biosecurity management (particular emphasis on harvest and post-harvest)
- Trials of new varieties for performance in Australian growing systems
- Facilitating access to superior cultivars for efficient production that also matches consumer taste and quality expectations
- Providing up to date quality guides including development of quality guides for honeydew melons and any new varieties
- Apply understandings of consumer preferences to develop and integrate voluntary industry standards/guides for taste and quality
- Assess potential application of production efficiencies being achieved in other industries or countries, for example, protected cropping.

Production efficiency means: producing more profitable melons per hectare with the same inputs; or where the same inputs produce a higher value crop, for example, with more consistent quality.

OUTCOME 3

By 2021, the Australian melon industry has developed and maintained export market opportunities, enabling increased returns to growers

The international demand and trade in melons is steadily increasing, while export opportunities in new, premium markets are developing. The Australian industry can benefit from this growth by positioning as premium, high value products and gaining or improving market access.

The strategic intent of this outcome is to increase the industry's profitability by developing exports of Australian melons to premium international markets. Achieving this outcome will involve:

- Implementing the Melon Industry Export Strategy (2017) which prioritises growing the export of Australian melons to the markets of Japan, South Korea, Malaysia, Maldives and Hong Kong
- Creating efficiencies in transport chains, for example, air and sea freight
- Developing trade, relationships and sharing market intelligence across value chains for existing export markets;
- Consistently pursue opportunities to position Australian melons as premium, high-quality products which attract a superior price
- Collaboration, R&D and biosecurity initiatives to pursue technical market access and remove market restrictions, such as the limited market access in Korea due to Queensland fruit fly
- Applying an understanding of consumer and market trends and tastes in export markets to produce melon varieties tailored to specific export market preferences
- Creating opportunities and pathways for more businesses to be involved in exports
- Using consistent production techniques to ensure premium quality products and standards across the Australian melon industry (Outcome 2).

OUTCOME 4

By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including food safety and biosecurity

The strategic intent of this outcome is to strengthen the melon industry's ability to reduce the risk of and effectively manage incidents that could damage industry and product reputation and consumer confidence. The main emphasis is on prevention of biosecurity breaches and food safety incidents. Achieving this outcome will involve:

- Collaborating with whole of industry supply chain firms to identify and prioritise biosecurity and food safety risks
- Developing, distributing and implementing an industry-wide risk mitigation plan to minimise and prevent biosecurity and food safety incidents
- Raising awareness of biosecurity and food safety risks across the value chain, through educational programs, on-site training and monitoring and evaluation
- Collaborate with whole of industry supply chain to implement workable prevention and best practice procedures;
- Skilled industry spokespeople and effective crisis management capabilities
- Risk monitoring and traceability systems for early detection and rapid response
- Support and complement the initiatives of the biosecurity levy.

The development of new practical mitigation plans and procedures, alongside awareness and renewal of the existing crisis communication plan will help to reduce risk and promote industry confidence and best practice. Supporting the actions of these plans through collaboration with the industry supply chain is essential, as is clear communication and education programs to ensure all mitigation measures are understood and adopted.

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SECTION THREE

Melon industry priorities

Industry investment priorities

OUTCOME 1 – By 2021, improved consumer perceptions of melon quality have supported increased domestic demand	
STRATEGIES	POSSIBLE DELIVERABLES
Conduct regular consumer research to gather insights on changing perceptions and expectations of fresh Australian melons	<ul style="list-style-type: none"> • A comprehensive consumer research report with baseline information on perceptions • Regular consumer insight reports that are shared with growers and other value chain firms
Collate and distribute evidence of the positive product health attributes of Australian melons	<ul style="list-style-type: none"> • Current and new knowledge of health and nutrition attributes of melons is available to health professionals and the general public • Established methodology to measure, monitor and report on annual national performance in meeting consumer quality expectations
Improve the reliability and consistency of year-round eating quality of Australian melons	<ul style="list-style-type: none"> • Proven practices to improve consistent melon quality are documented, shared and applied across the value chain
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"> • Regular information sharing builds trusted relationships across the melon value chain from grower to retailer



OUTCOME 2 – By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns to growers	
STRATEGIES	POSSIBLE DELIVERABLES
Promote the use of existing R&D and proven management practices that improve on-farm efficiency and increase profitability	<ul style="list-style-type: none"> • Industry publications, forums and engagement to raise awareness and promote innovative on-farm practices and application of R&D • Prioritised R&D opportunities to reduce on-farm costs of production • Guidelines on current on-farm best management practices to consistently meet product quality as defined by consumers (with a focus on harvest and post-harvest) • New varieties are trialled to optimise performance, for example, marketable yield per hectare, for different growing regions • Access to crop protectants and regulants of high value to growers • Protection/contingency plans are prepared and implemented to minimise the risk of incursion by new and damaging invasive pests and diseases
Undertake R&D and extension to enhance product quality, consistent with evidence of consumer expectations (with a focus on harvest and post-harvest)	
Develop applied research and innovation in melon growing systems for sustainable production and biosecurity management	
Continual improvement in practices and processes that mitigate pest and disease threats	

OUTCOME 3 – By 2021, the Australian melon industry has developed and maintained export market opportunities, enabling increased returns to growers	
STRATEGIES	POSSIBLE DELIVERABLES
Develop and improve technical market access for Australian melons into priority markets	<ul style="list-style-type: none"> • Scientific evidence available to support government negotiations on technical access for Australian melons in priority markets (such as South Korea) as identified in the 2017 melon export strategy • Collaborations with other horticulture industries in priority export markets • Varieties that are suited to consumers in particular export markets are available to growers. • An export manual and production guide for meeting market requirements for high priority existing markets • Analysis that identifies and prioritises opportunities to reduce the costs, for example, alternative transport, of exporting produce to markets
Maintain and improve trade with existing export markets, especially where opportunities exist in the premium end of the market	
Support export market demand through timely and accurate data, information and market research	

OUTCOME 4 – By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including food safety and biosecurity

STRATEGIES	POSSIBLE DELIVERABLES
Collaborate with whole of industry supply chain firms to identify and prioritise biosecurity and food safety risks	<ul style="list-style-type: none"> • National industry crisis and risk management plan with tailored responses for priority risk areas distributed across the supply chain, for example, biosecurity, food safety
Raise awareness of biosecurity and food safety risks across the value chain, through educational programs, on-site training and monitoring and evaluation	<ul style="list-style-type: none"> • Australian melon industry supply chain firms are informed of biosecurity risks and obligations • Best management practices that will minimise biosecurity and food safety risks are made available to supply chain firms • Food safety training, skills and development initiatives have been established and/or extended through the supply chain
Develop, distribute and implement an industry-wide risk mitigation plan to minimise and prevent biosecurity and food safety incidents	<ul style="list-style-type: none"> • Industry communications are implemented to facilitate the two-way flow of information through the value chain • Effective crisis management capabilities, including skilled industry spokespeople and communications systems
Collaborate with whole of industry supply chain to implement workable prevention and best practice procedures	
Develop and implement risk monitoring and traceability systems for early detection and rapid response	
Support and complement the initiatives of the biosecurity levy	



Aligning to Hort Innovation investment priorities

In establishing investment priorities, Hort Innovation analysed both historical and current levy and co-investment portfolios and priorities. From this analysis we identified eleven cross-sectoral investment themes. We consolidated these themes further and considered their alignment with the government’s Rural RD&E Priorities and National Science and Research Priorities, to arrive at five investment priorities outlined in **Figure 16**. **Figure 16** also shows how each cross-sectoral investment theme relates to the five investment priorities.

Figure 16: Hort Innovation’s investment priorities



The alignment of melon SIP outcomes to the Hort Innovation investment priorities, and as a consequence the government’s Rural RD&E Priorities and National Science and Research Priorities is shown in **Table 3**.

Table 3: Melon SIP outcomes alignment to the Hort Innovation investment priorities

Hort Innovation investment priorities	Melon SIP outcomes
Support industry efficiency and sustainability	By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns for growers
Improve productivity of the supply chain	
Grow the horticulture value chain capacity	By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including food safety and biosecurity
Drive long-term domestic and export growth	By 2021, improved consumer perceptions of melon quality have supported increased domestic demand By 2021, the Australian melon industry has developed and maintained export market opportunities, enabling increased returns to growers
Lead strategically to enhance the development of the Australian horticulture industry through operational excellence	Enabler



4

SECTION FOUR

Melon fund monitoring and evaluation framework

Melon SIP monitoring, evaluation and reporting

A SIP program logic, and monitoring and evaluation (M&E) plan has been developed for the melon SIP. These are informed by the Hort Innovation Organisational Evaluation Framework. The logic maps a series of expected consequences of SIP investment. The M&E plan shows the performance measures that will be measured to demonstrate progress against the SIP and what data will be collected. Progress against the SIP will be reported in Hort Innovation publications and at industry SIAP meetings.

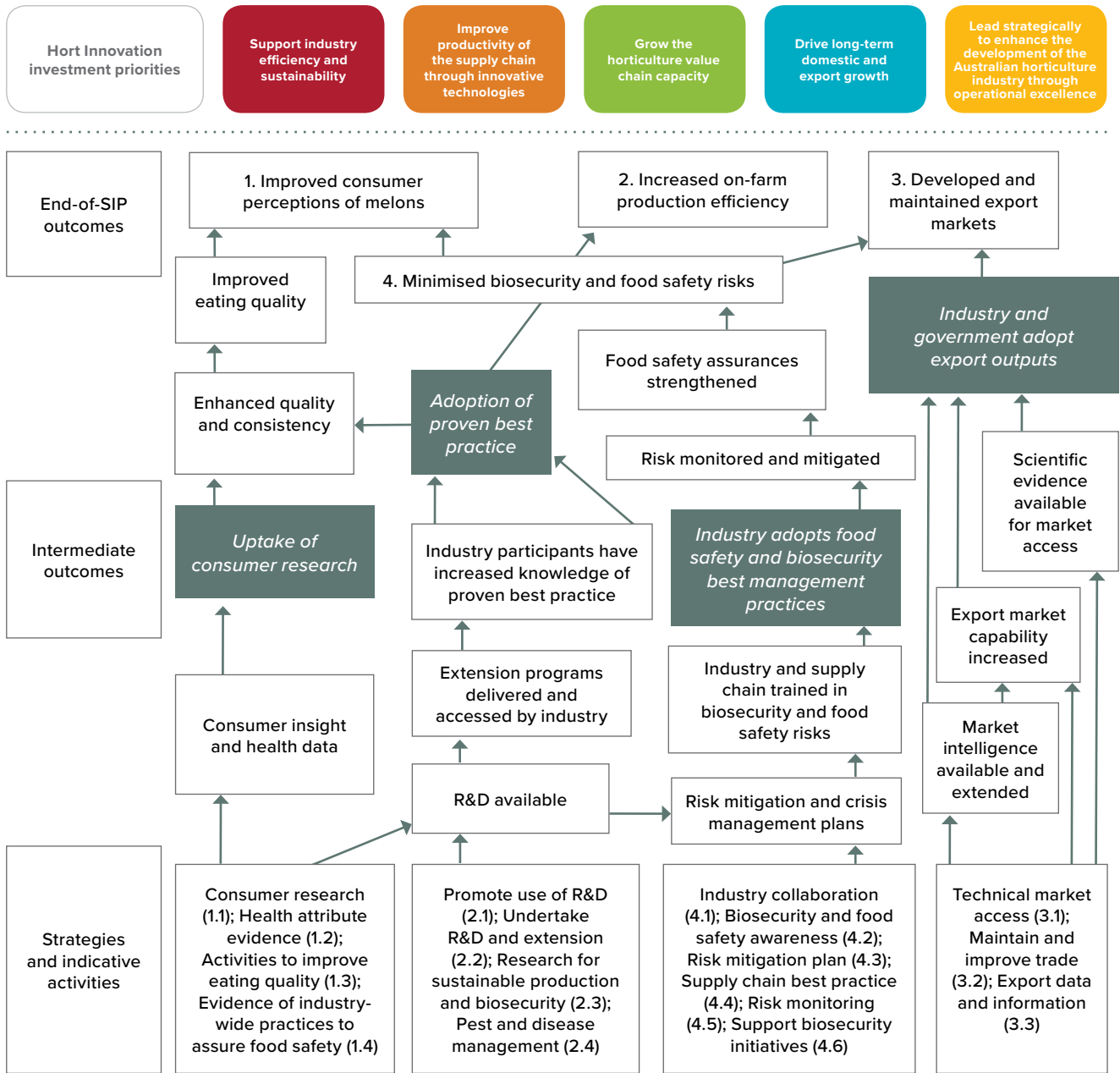
The SIP outcomes and strategies will be used to inform investments in individual projects to deliver the SIP. The results of M&E will be used to reflect on the results of the investments and in decision-making. Hort Innovation will facilitate the review of SIPs to ensure they remain relevant to industry.

Melon SIP logic

An indicative melon SIP program logic is shown in **Figure 17**. The shaded boxes are not fully explicit in the strategy but necessary conditions for the achievement of the expected outcomes. The logic is based on the Hort Innovation SIP logic hierarchy (**Appendix 2**).



Figure 17: Melon SIP logic



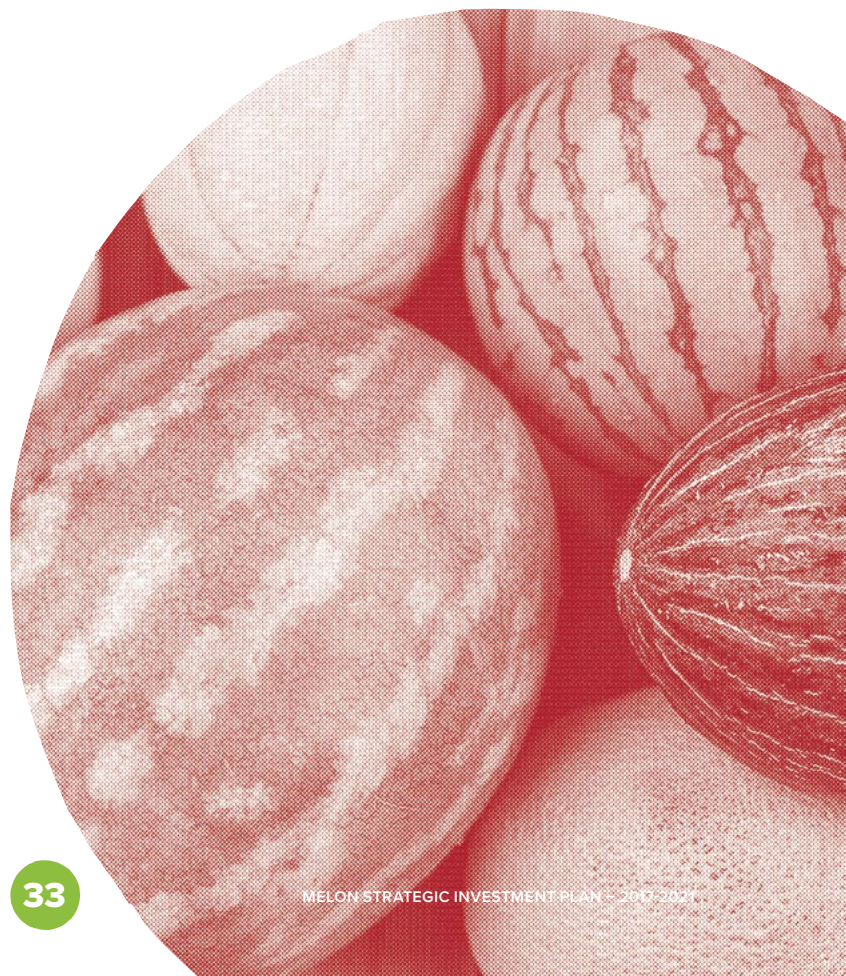
Melon SIP M&E plan

The melon M&E plan is shown in **Table 4**. The table indicates key performance indicators (KPIs) and data collection methods both at a macro/industry (trend) level and at more specific SIP level/s.

Table 4: Monitoring and evaluation plan for the melon SIP

Objectives	Strategies	KPIs	Data collection methods and sources
OUTCOME 1: By 2021, improved consumer perceptions of melon quality have supported increased domestic demand	Conduct regular consumer research to gather insights on changing perceptions and expectations of fresh Australian melons	<ul style="list-style-type: none"> Consumer insight reports available and evidence of uptake of information Positive trends over time of consumer perceptions and expectations being met Increased household purchase volumes on FY17 data with trends established through consumer behavioural research Health attribute information available Evidence available that supports the safety and integrity of melon products 	<ul style="list-style-type: none"> Retail and consumer behavioural/attitudinal data Grower surveys Research reports
	Collate and distribute evidence of the positive product health attributes of Australian melons		
	Improve the reliability and consistency of year-round eating quality of Australian melons		
	Document and share evidence of industry-wide practices that strengthen and assure the safety and integrity of melon products		
OUTCOME 2: By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns to growers	Promote the use of existing R&D and proven management practices that improve on-farm efficiency and increase profitability	<ul style="list-style-type: none"> Communication and extension activities implemented Evidence of increased knowledge and uptake of R&D and proven management practices R&D concepts developed as appropriate to address any quality issues identified in consumer research Evidence of uptake of good practice pest and disease management Pest R&D prioritised using the updated Melon SARP (2019) 	<ul style="list-style-type: none"> Research reports ABS data Australian Horticulture Statistics Handbook
	Undertake R&D and extension to enhance product quality, consistent with evidence of consumer expectations (with a focus on harvest and post-harvest)		
	Develop applied research and innovation in melon growing systems for sustainable production and biosecurity management		
	Continual improvement in practices and processes that mitigate pest and disease threats		
OUTCOME 3: By 2021, the Australian melon industry has developed and maintained export market opportunities, enabling increased returns to growers	Develop and improve technical market access for Australian melons into priority markets	<ul style="list-style-type: none"> Evidence of progress on technical market access in priority markets Melon export strategy currency maintained and evidence of implementation Market intelligence information and export data available Increased export volumes on FY17 volumes Inbound and outbound trade activities initiated and delivered 	<ul style="list-style-type: none"> Research reports ABS/GTA export statistics Australian Horticulture Statistics Handbook DAWR Melon export strategy
	Maintain and improve trade with existing export markets, especially where opportunities exist in the premium end of the market		
	Support export market demand through timely and accurate data, information and market research		

Objectives	Strategies	KPIs	Data collection methods and sources
<p>OUTCOME 4: By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including food safety and biosecurity</p>	Collaborate with whole of industry supply chain firms to identify and prioritise biosecurity and food safety risks	<ul style="list-style-type: none"> • Crisis management plan available • Evidence of best practices adopted across the value chain to minimise food safety risks • Biosecurity and foods safety risks prioritised and new R&D concepts developed where required • Evidence of collaboration across the value chain on food safety and biosecurity issues • Risk monitoring systems implemented 	<ul style="list-style-type: none"> • Research reports • Food safety incident data • Biosecurity data • Grower/industry stakeholder surveys
	Raise awareness of biosecurity and food safety risks across the value chain, through educational programs, on-site training and monitoring and evaluation		
	Develop, distribute and implement an industry-wide risk mitigation plan to minimise and prevent biosecurity and food safety incidents		
	Collaborate with whole of industry supply chain to implement workable prevention and best practice procedures		
	Develop and implement risk monitoring and traceability systems for early detection and rapid response		
	Support and complement the initiatives of the biosecurity levy		

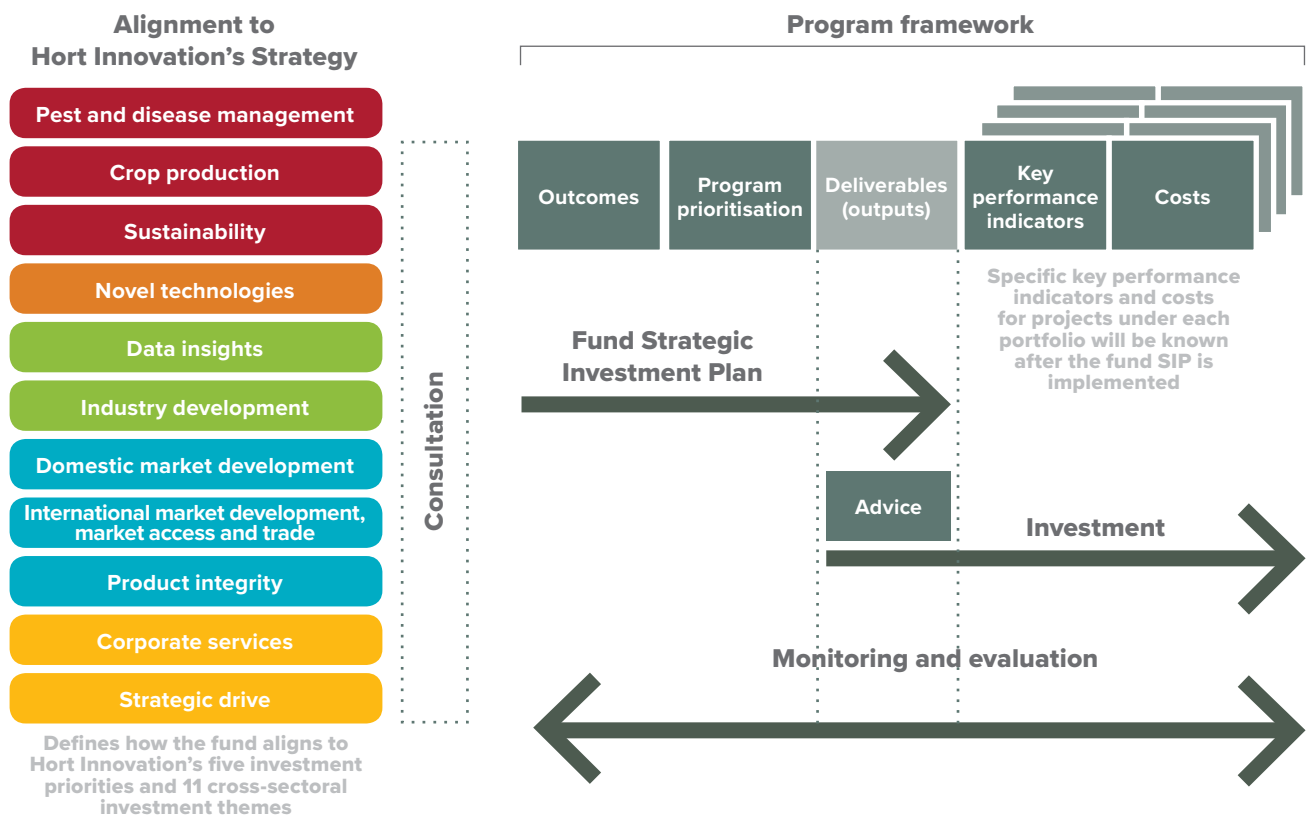


Reporting

The program framework in **Figure 18** is the mechanism that links Hort Innovation’s strategy and investment priorities to the investment process through the industry SIP. SIPs assist Hort Innovation to prioritise and implement the specific industry R&E, extension and marketing programs.

Hort Innovation will use dynamic reporting against our monitoring and evaluation framework to report on investment progress. The intention of investments to each industry outcome will be reported regularly, including through industry Annual Reports, Hort Innovation’s Annual Report and Hort Innovation’s Annual Operating Plan.

Figure 18: Hort Innovation’s program framework

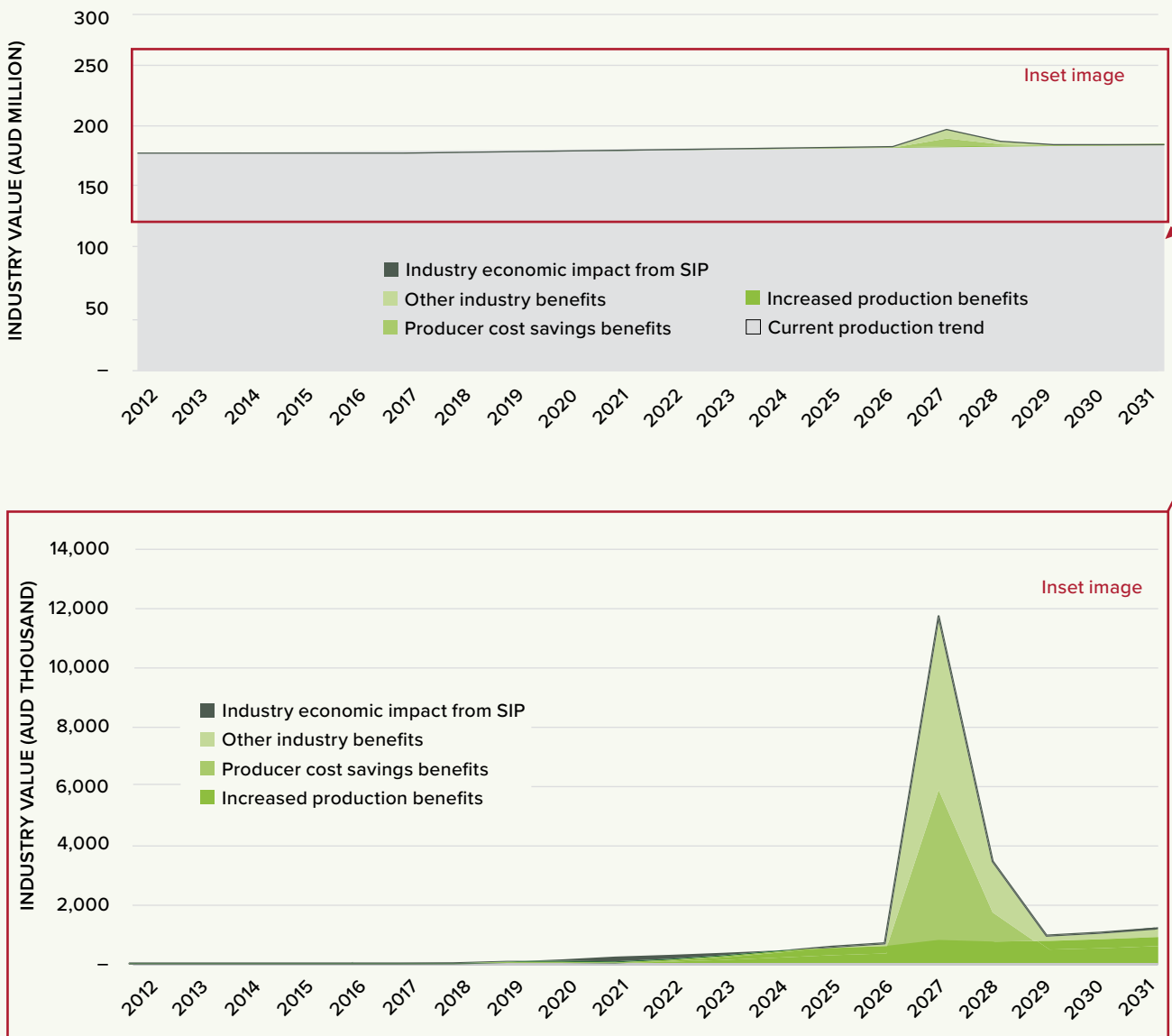


SECTION FIVE

Impact assessment



Figure 19: Economic benefit from investment in the melon SIP



An independent assessment of the potential economic impacts from investment into the melon SIP indicated a positive return on investment for the industry (Figure 19). The anticipated investment of \$4.20 million over the next four years in R&D and extension activities is expected to generate \$20.19 million in net benefits for the industry, representing a benefit cost ratio of 4.80 times to growers and service providers along the value chain.

The table below provides a summary of the assessed impacts for each outcome identified in the SIP, the anticipated deliverables, net economic benefits and return on investment.

Table 5: Summary of assessed impacts for each SIP outcome

Outcome	Expected deliverables <i>Refer to section 3 for further details</i>	Anticipated SIP investment (over four years)	Net benefits (over 14 years)	Benefit cost ratio
<p>OUTCOME 1: Improved consumer perceptions of melon quality have supported increased domestic demand</p>	<ul style="list-style-type: none"> Comprehensive consumer research reports Regular consumer insight reports shared across the value chain Health and nutrition information for health professionals and the general public Methodology and practices to improve product quality Information sharing along the Melons value chain 	\$1,050,963	\$9,163,224	8.72
<p>OUTCOME 2: By 2021, the Australian melon industry has increased on-farm production efficiency, enabling improved returns to growers</p>	<ul style="list-style-type: none"> Publications and forums to promote innovative on-farm practices and application of R&D Prioritised R&D opportunities to reduce production costs Guidelines on best management practices on-farm New varieties are trialled to optimise performance Access to crop protectants and regulants of high value Risk management and contingency plans to reduce the risk of pests and disease 	\$1,050,963	\$4,502,819	4.28
<p>OUTCOME 3: By 2021, the Australian melon industry has developed and maintained export market opportunities, enabling increased returns to growers</p>	<ul style="list-style-type: none"> Scientific evidence to support government negotiation on technical access to export markets Collaboration with other horticulture industries in priority export markets Availability of varieties that are suited to consumers in export markets Export manuals and production guides for meeting export market requirements Opportunities to reduce costs of export 	\$1,050,963	\$2,335,717	2.22

Outcome	Expected deliverables <i>Refer to section 3 for further details</i>	Anticipated SIP investment (over four years)	Net benefits (over 14 years)	Benefit cost ratio
<p>OUTCOME 4: By 2021, the Australian melon industry has implemented actions in prioritised areas to mitigate and minimise risks including biosecurity and food safety</p>	<ul style="list-style-type: none"> National industry crisis and risk management plan Industry information on biosecurity risks and obligations Best management practices that will minimise biosecurity and food safety risks Food safety training and skills development Industry communications across the value chain 	\$1,050,963	\$4,186,576	3.98

The quantified impacts associated with Outcome 1 include:

- Market expansion and price premiums from the availability of consumer research and insight report to enable better alignment to consumer needs
- A 3 per cent increase in consumption from improved health professional and consumer understanding of the health benefits of melon
- Price premiums of up to 9 per cent from the implementation of best practices to measure and improve the quality of melon for consumers

The quantified impacts from Outcome 2 include:

- Up to 6 per cent increase in production yields of and 1 per cent reduction in production cost from the implementation of best production practices on-farm
- Up to 5 per cent reduction in production costs from the implementation of new innovation and R&D outcomes on-farm
- Benefits from crop losses avoided and an increase in production yields from availability of crop protectants and regulants of high value
- Reductions in the impacts associated with pest and diseases by up to 10 per cent from the development and implementation of protection/contingency plans to minimise the risk of incursion.

The quantified impacts from Outcome 3 include:

- Market expansion of up to 13 per cent from market access to high value markets such as South Korea, collaborations with other horticulture industry to build Australia's brand and create critical mass in export markets and the production of melon varieties that are suitable for consumers in high value exports markets in terms of taste and preferences
- Market expansion of up to 7 per cent and 1 per cent reduction in production costs from the availability export manuals and production guidelines to enable greater efficiency in supplying to export markets

The quantified impacts from Outcome 4 include:

- Reduction in the impacts associated with industry crises by up to 10 per cent from the development and implementation of a national industry crisis and risk management plan and the availability of information on biosecurity issues and industry obligations
- Reduction in the impact associated with biosecurity and food safety by up to 30 per cent from the implementation of best practices on farm, food safety training and skills development for employees

The net economic impact, or the NPV, is based on estimates projected over a 14-year period, starting from 2016/17. Achievement of research outputs, expected adoption and impacts are all risk adjusted. The NPV is the risk adjusted benefits that will be achieved over the 14-year modelling period, less the usage and research costs and a five per cent discount rate.

6

SECTION SIX

Risk management

The main risks are that the levy is new to the melon industry and it will take time for many investments to have impact. Further, the industry had a major shock in 2018 with a listeria outbreak that had fatalities and a caused loss of consumer confidence. The industry will take some time to recover from the impact of the listeria crisis.

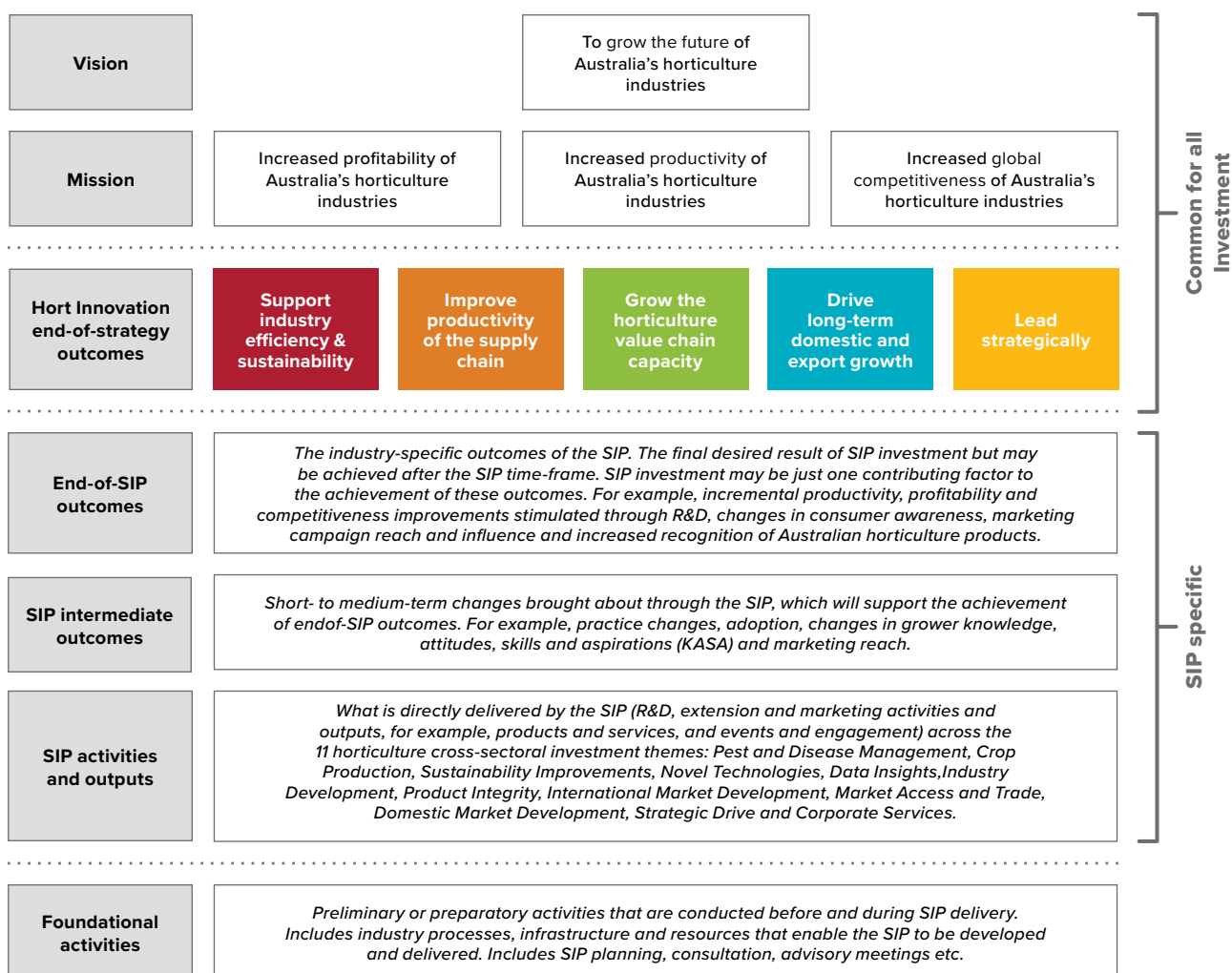


APPENDIX 1: Consultation and validation

The following people are acknowledged for their contribution to the melon Strategic Investment Plan process:

- Melon SIAP panellists
- Dianne Fullelove, Melon Industry Development Manager
- Attendees at the Australian Melon Conference in Townsville, where the draft Strategic Investment Plan was presented on 18 September 2018
- Respondents to the Australian Melon Industry Survey, conducted between 30 April and 11 May 2018.

APPENDIX 2: Logic hierarchy



APPENDIX 3: Reference documents

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