

Sweetpotato

STRATEGIC INVESTMENT PLAN

2017-2021



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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 \$13.2 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 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.

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

The sweetpotato SIP

Producers in the sweetpotato industry pay levies to the Department of Agriculture and Water Resources (DAWR), who 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.

A national vegetable levy was introduced in 1996 for which sweetpotato pays 0.5 per cent of the value of produce at the first point of sale. Levy is payable on sweetpotato that are produced in Australia and either sold by the producer or used by the producer in the production of other goods.

Of the sweetpotato levy funds collected, 0.485 per cent of the sale price is directed to R&D which is managed by Hort Innovation and 0.15 per cent of the sale price is directed to plant health programs, which are separately managed by Plant Health Australia (PHA).

On 1 January 2016, a statutory marketing levy and export charge of 1 per cent on the sale price of all sweetpotato was established. The aim of the marketing levy, which was requested by the peak industry body, the Australian Sweetpotato Growers' Association, is to secure funding for long-term marketing needs and priorities of the industry, including premium positioning and increasing overall consumption¹.

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

This plan represents the Australian sweetpotato industry's collective view of its R&D and marketing needs over the next five years (2017 to 2021). This plan has been developed in consultation with Australian sweetpotato levy payers through a synthesis of desktop research, and interviews with growers and value chain firms.

The people consulted in the preparation of the plan are listed in **Appendix 2** and the documents referred to are listed in **Appendix 3**.

The sweetpotato Strategic Investment Advisory Panel (SIAP) has responsibility for overseeing the industry's SIP and providing strategic investment advice to Hort Innovation. Hort Innovation and the panel will be guided by the strategic investment priorities identified within this plan. For more information on the sweetpotato SIAP constituency please visit Hort Innovation's website (www.horticulture.com.au).

¹ (January 2016) Regulations for Sweet Potato Marketing Levy – Regulation Impact Statement. Department of the Prime Minister and Cabinet. <http://ris.pmc.gov.au/2016/01/27/regulations-sweet-potato-marketing-levy>.

Sweetpotato

STRATEGIC INVESTMENT PLAN 2017-2021 AT A GLANCE

POTENTIAL IMPACT OF THIS PLAN



Based on an estimated investment of \$9.09 million over the next five years.

OUTCOMES	STRATEGIES
By 2021, domestic per capita consumption of fresh Australian sweetpotato has increased, supported by positive consumer perceptions of product value	Increase domestic consumer demand for fresh, quality Australian sweetpotato
	Inform consumers about the positive and distinctive health and nutrition attributes of sweetpotato
	Monitor current perceptions and experiences with sweetpotato by different consumer segments
By 2021, the Australian sweetpotato industry has increased marketable yield per hectare through adoption of technology, management best practice and cultivars	Promote the use of existing R&D and proven management practices that improve on-farm efficiency and increase yield
	Facilitate access to protectants of high value to growers
	Maintain and improve access to sweetpotato cultivars that meet market needs and offer superior performance with yield
	Innovation in sweetpotato growing systems for sustainable production

OUTCOMES	STRATEGIES
By 2021, the Australian sweetpotato industry has diversified its markets through export development and value adding	Work directly with major sweetpotato value chain businesses to prioritise three commercially viable market diversification opportunities
	Develop trade with existing export markets
	Collaborate with government and other industries to gain technical access to new, high value markets
By 2021, the Australian sweetpotato industry has secured and strengthened its good reputation with the community, customers and governments	Manage risks to the industry's reputation as a reliable supplier of superior quality, safe and responsibly grown produce
	Strengthen industry cohesion through direct, two-way communication with growers and other value chain businesses

Sweetpotato

STRATEGIC INVESTMENT PLAN

2017-2021 AT A GLANCE

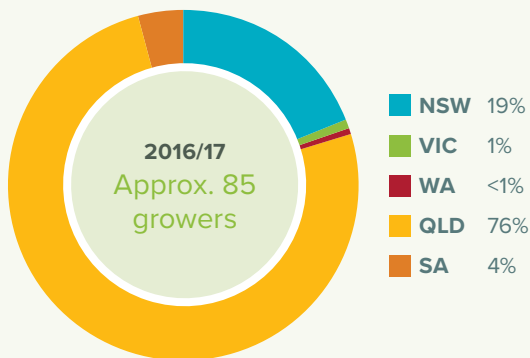
Major opportunities

- Greater mechanisation may help reduce dependence on labour
- Increasing consumer health consciousness and 'wellness' campaigns
- Potential to increase fresh exports
- Broader adoption of BMP approaches and the development and adoption of IPDM practices to reduce the dependence on chemical controls
- Increasing health focus on gut health
- Availability all year through diversity of production.

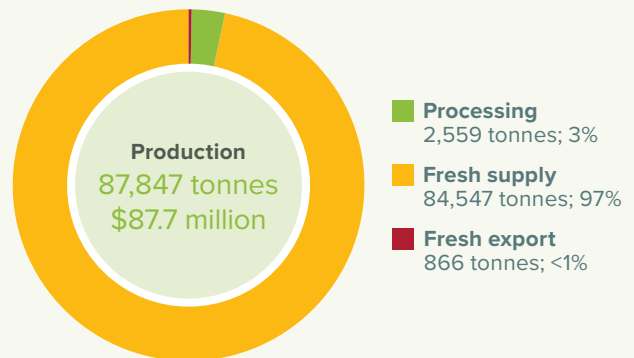
Major challenges

- Low cost imports to competing processed product
- Labour cost increases
- Biosecurity constraints and challenges
- Dietary trends focusing on low sugar/fructose
- Regulatory changes removing the availability of specific chemical controls
- Variable supply with seasonality peaks causing low sale price
- Potential loss of experience within the industry with the retirement or loss of experienced agronomists.

Industry size and production distribution



Sweetpotato supply chain and value 2016/17





SECTION ONE

Context

The Australian sweetpotato industry

The Australian sweetpotato industry was previously included as part of the wider vegetable industry Strategic Investment Plan (SIP). In recent years, the industry has experienced significant growth and a dedicated marketing levy was implemented in 2016. These significant developments in the industry mean it is necessary to develop and publish a new plan in response.

Products²

Sweetpotato (*Ipomoea batatas*) is distantly related to, but not a variety of potato (*Solanum tuberosum*). The sweetpotato industry and its growers consider themselves to be separate from the potato industry and their product to be a specialist segment of the broader vegetable industry³.

Australian production is dominated by gold sweetpotato, which has a rose/gold smooth skin with moderate deep orange flesh. Gold sweetpotato accounted for 90 per cent of fresh production for the year ending June 2017 and are the most recognisable variety for Australian consumers.

Red sweetpotato have a red purple skin, with bright white flesh. Red sweetpotato accounted for 7 per cent of fresh production for the year ending June 2017. For the same period, purple sweetpotato, which are known as Hawaiians and have white skin and white or purple flesh, accounted for 2 per cent of fresh production.

White sweetpotato, also known as Kestle, are the least produced variety, accounting for 1 per cent of fresh production for the year ending June 2016.

While retail growth in the domestic Australian sweetpotato market is largely based on the popularity of the gold variety, niche markets are developing for red and purple varieties, whilst sales of white sweetpotato remains relatively low⁴.

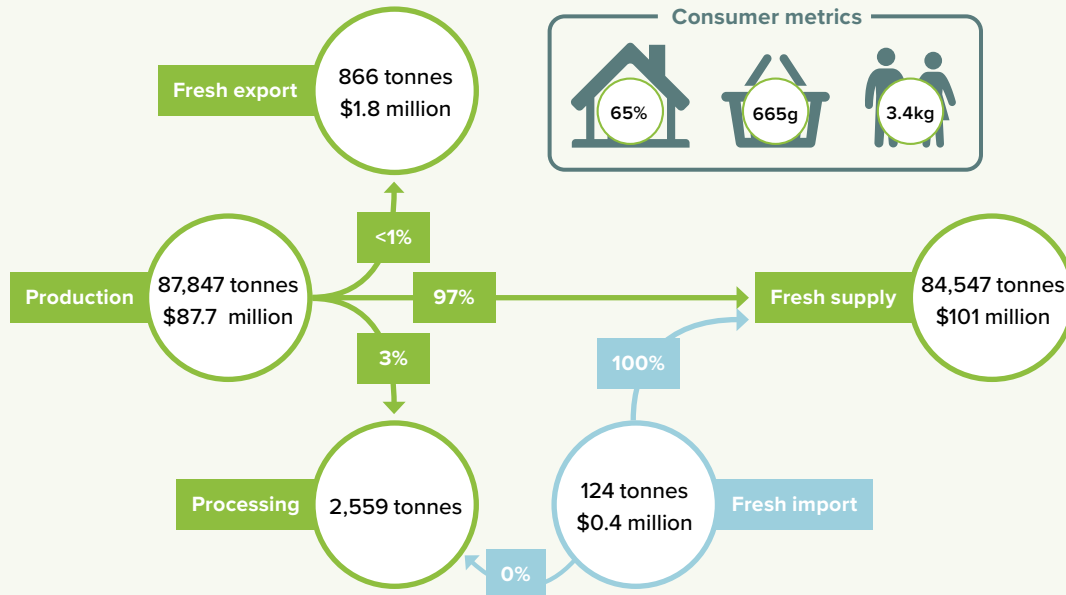
Figure 1: Seasonality by sweetpotato variety, 2016-2017 (Source: Hort Innovation)

Variety	2016-17 tonnes	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Gold	79,062	High	High	High	High	High	High	High	Medium	Medium	Medium	Low	Low
Red	6,149	Low	Low	Low	Low	Medium	Medium	Medium	Medium	High	High	Low	Low
Purple	1,757	Low	Low	Low	None	None	Low	Low	Low	Low	Low	Low	Low
White	878	Low	Low	Low	Low	None	None	Low	Low	Low	Low	Low	Low
Availability legend		High				Medium		Low				None	

2 (April 2018) Australian Horticulture Statistics Handbook 2016/17: Vegetables. Hort Innovation, pp.404.
 3 (August 2012) Situation Review and Strategic Marketing Plan for Australian Fresh Sweet Potatoes 2013-2016. Australian Sweet Potato Growers Inc.
 4 Wolfenden, R. et al. (January 2014) Evaluating Sweet Potato varieties to meet market needs: Final Report. Hort Innovation, p. 10.

Figure 2: Fresh sweetpotato supply chain, year ending June 2017

(Source: Hort Innovation)



Industry production and supply chain

The Australian sweetpotato industry has experienced sustained growth. Sales increased by up to 20 per cent per annum since 1998⁵ and between 1996 and 2011, production grew by almost 1,700 per cent.

The high rate of growth in production has eased in recent years, though the industry continues to expand. Production rose from 56,889 tonnes in 2014 to 87,847 tonnes in 2017⁶. The value of production in 2017 was \$87.7 million, while the wholesale value of the fresh supply was \$101 million. Almost all sweetpotato are sold as fresh produce, with around 3 per cent purchased for processing.

The domestic demand for sweetpotato, both for private consumption and the foodservice industry has experienced rapid growth. Research suggests that this growth can be attributed to both a natural process of ‘discovery’ of sweetpotato by new consumers, and also the constant process of quality improvement undertaken by growers which ensures produce is meeting the exacting standards of retail chains⁷.

There are an estimated 85 commercial producers of sweetpotato in Australia. The largest producing area is Queensland where over 75 per cent of national production occurs, particularly around the Bundaberg region. The second major producing area is around Cudgen in northern NSW. Other growing areas include Mareeba, Atherton, Rockhampton (QLD), Murwillumbah (NSW), Perth, Carnarvon and Kununurra (WA).

Domestic consumption and demand

As mentioned, the Australian sweetpotato industry’s production has grown considerably over the past decade. While consumption has risen steadily in line with production, there appears to be significant scope to increase awareness about sweetpotato with domestic consumers.

For the year ending June 2017, 65 per cent of Australian households purchased sweetpotato, buying an average of 665 grams per shopping trip. Based on the volume supplied, the annual per capita consumption of sweetpotato was 3.45 kilograms⁸.

5 Wolfenden, R. et al. (January 2014) *Evaluating Sweet Potato varieties to meet market needs*: Final Report. Horticulture Australia Limited.
 6 (April 2018) *Australian Horticulture Statistics Handbook 2016/17: Vegetables*. Hort Innovation, pp.404.
 7 (August 2012) *Situation Review and Strategic Marketing Plan for Australian Fresh Sweet Potatoes 2013-2016*. Australian Sweet Potato Growers Inc. p. 8
 8 (April 2018) *Australian Horticulture Statistics Handbook 2016/17: Vegetables*. Hort Innovation, pp.402.

Figure 3: Major sweetpotato production areas, Queensland and NSW (Source: Hort Innovation)



Figure 4: Fresh sweetpotato production by State, 2016-17 (Sources: Hort Innovation)

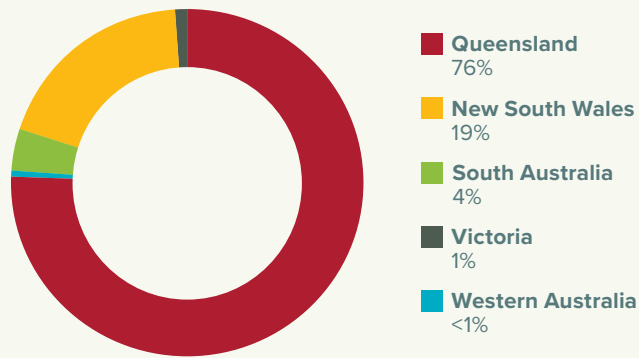
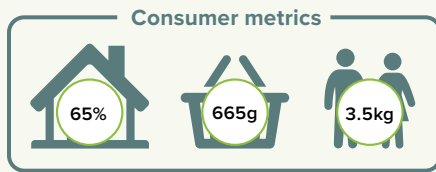


Figure 5: Consumer purchase metrics, 2016-17
(Source: Hort Innovation)



There is scope for more growth in per capita consumption of sweetpotato and the industry is aware of the major challenges to be overcome. Consumer research⁹ conducted in 2012 found that:

1. Sweetpotato is not readily recalled in purchase situations, consequently, there are large groups in the community who either do not buy sweetpotato at all or buy infrequently
2. Many consumers, particularly young families, are unfamiliar with sweetpotato and not sure of how to prepare them or how to include them in the family menu. However, awareness is higher in families with young children, with sweetpotato being a popular baby food.

Important implications of this consumer research are that there are opportunities to increase demand and consumption of sweetpotato. In particular, by:

- » Promoting the nutritional benefits of sweetpotato
- » Marketing sweetpotato to consumers as easy, tasty and healthy – in that order¹⁰.

In 2017, Hort Innovation invested funds from the sweetpotato marketing levy into a variety of activities to drive awareness and consumption¹¹. A variety of marketing assets, including a consumer-facing website <http://australiansweetpotatoes.com.au/>, recipe cards, booklets and video content were developed to deliver information on the benefits and uses of sweetpotato to Australia consumers. A social media campaign was launched alongside in-store promotions of Australian sweetpotato, with the tagline “Supercharge your meal”.

The in-store promotions revealed that 23 per cent of shoppers were unaware of the benefits of sweetpotato before the demonstrations and 25 per cent found price to be a potential barrier to purchase¹². However, 49 per cent of consumers were already buying sweetpotato because of their nutritional value and 76 per cent identified that they preferred sweetpotato over potato. Collectively, these findings confirm that there are sound prospects for increasing the consumption and demand for Australian sweetpotato.

⁹ Henderson, C. et al. (2012) *Sweetpotato Consumer Research: Insights to increasing consumption*. Queensland Department of Agriculture, Fisheries and Forestry.

¹⁰ *Project YAMS*. Hort Innovation, The Practice, pp.1 – 41.

¹¹ (2017) *Sweetpotato Fund Annual Report 2016/17*. Hort Innovation. p. 3

¹² (2017) *Sweetpotato Fund Annual Report 2016/17*. Hort Innovation. p. 4

Figure 6: Net fresh sweetpotato international trade (Source: IHS Global Trade Atlas; Hort Innovation)



Competing or complementary products

Important market studies have been undertaken in the last five years to establish consumer attitudes to sweetpotato and identify possible competitive and complementary products. For example, consumer research carried out by Hort Innovation¹³ suggested that sweetpotato is often overlooked by the average consumer in favour of more recognisable products, such as white potato. Further, consumers perceive that products with a similar orange colour, such as pumpkin varieties and carrots are readily interchangeable alternatives to sweetpotato.

The vast majority of the domestic market's supply of fresh sweetpotato is provided by Australian products. However, the domestic industry is unable to supply the quantity of product required to satisfy demand for items such as frozen sweetpotato chips and fries for the food service industry. These commercial sweetpotato products are often grown and packaged in countries such as Canada, USA and South Africa. Australian sweetpotato often cannot be supplied at competitive prices¹⁴ to produce these processed products, due to overseas production having lower costs such as labour.

Nonetheless, Australian sweetpotato are now being supplied for products such as sweetpotato 'snack' chips.

International trade

Market analysis of world trade in sweetpotato shows that trade is increasing¹⁵. In 2015, the world trade for sweetpotato imports by country was valued at \$510 million, with 67 countries importing greater than \$100,000 of sweetpotato. Australia had no exports into the top seven sweetpotato-importing countries of the world that account for \$383 million in annual sales.

For the year ending June 2017, Australia exported 866 tonnes of fresh sweetpotato. The exports and imports over the last five financial years can be seen in **Figure 6**, where imports are counted as negative tonnes.

In the Asian region, Australia has open market access for fresh sweetpotato in Singapore, Indonesia, Malaysia and Hong Kong. Countries that accept Australian sweetpotato but have an import protocol in place include the United Arab Emirates (UAE), Thailand, Vietnam and Philippines. Major ASEAN markets where there is presently no market access for Australian sweetpotato include China, Japan, Taiwan and Korea.

For the year ending June 2017, the UAE continued to receive the majority of Australia's exported fresh sweetpotato, with 49 per cent of product exported to the UAE market¹⁶.

¹³ Project YAMS. Hort Innovation, The Practice, pp.1 – 41.

¹⁴ Situation Review and Strategic Marketing Plan for Australian Fresh Sweet Potatoes 2013-2016. Australian Sweet Potato Growers Inc. p. 12

¹⁵ Mead, A. et. al. (September 2016) *Identify the export potential for Sweet Potatoes into ASEAN markets: Agri-Science Queensland Innovation Opportunity*. Department of Agriculture and Fisheries

¹⁶ (April 2018) *Australian Horticulture Statistics Handbook 2016/17: Vegetables*. Hort Innovation, pp.406.

Figure 7: Fresh sweetpotato exports by country, 2016-17 (Source: IHS Global Trade Atlas; Hort Innovation)

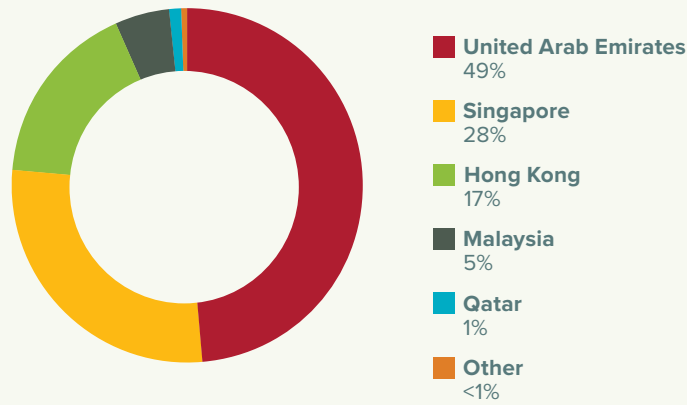


Figure 8: Fresh sweetpotato imports and exports by state, 2015-17 (Source: Global Trade Atlas; Hort Innovation)

Imports by state destination (tonnes)			
Year ending June	2015	2016	2017
New South Wales	11	12	89
Queensland	–	<0.5	19
Victoria	28	69	16
Western Australia	–	–	<0.5
Other	–	<0.5	<0.5
TOTAL	38	82	124

Exports by state of production origin (tonnes)			
Year ending June	2015	2016	2017
Queensland	612	604	567
Victoria	38	43	185
New South Wales	81	87	91
Northern Territory	–	–	2
South Australia	2	4	1
Other	22	1	19
TOTAL	755	739	866

Figure 9: Fresh sweetpotato imports and exports by country, 2015-17 (Source: GTA; Hort Innovation)

Imports by country (tonnes)			
Year ending June	2015	2016	2017
China	29	73	89
Tonga	–	–	39
Vietnam	9	5	6
Hong Kong	–	1	5
South Korea	–	1	2
Other	1	1	4
TOTAL	38	82	124

Exports by country (tonnes)			
Year ending June	2015	2016	2017
United Arab Emirates	491	567	423
Singapore	133	90	245
Hong Kong	<0.5	27	144
Malaysia	17	32	39
Qatar	7	11	11
Other	106	12	3
TOTAL	755	739	866

Industry services and leadership

The formation of Hort Innovation represents a fundamental change to the services system for sweetpotato growers, with levy payers now having the opportunity to join Hort Innovation directly as members.

Beyond membership to Hort Innovation, the sweetpotato industry is also represented by Australian Sweetpotato Growers Inc. (ASPG), which was established in 2007. ASPG membership includes the majority of Australia's sweetpotato growers and the majority of sweetpotato production¹⁷.

The national industry body has an important role in ensuring clear and consistent messages, being responsive to emerging issues and ensuring that what is being done and achieved is measured and monitored. ASPG has been particularly active with research, development and extension (RD&E) initiatives and the establishment of a marketing levy for the sweetpotato industry which came into effect in January 2016.

Successful implementation of the SIP will involve strategic relationship management and effective communication with growers and value chain firms, for example, retailers, as well as government and the community.

¹⁷ (2017) Australian Sweet Potato Growers Inc. <http://www.aspg.com.au/>

Operating environment

The sweetpotato industry	
Strengths	<ul style="list-style-type: none"> • The Australian sweetpotato industry is achieving sustained growth in response to market demand • Industry awareness and interest in developing exports • Suitable land is available for production expansion • Diversity of production regions enable reliable supply year-round • A cohesive industry with most grower businesses and the majority of production involved in the industry body • Production standards are increasing across value chains delivering higher volumes of consistent quality sweetpotato • Product has positive nutritional attributes • R&D levy funds available for production and consumer research • Productive relationship with breeders of cultivars provides access to cultivars that meet production challenges and market needs • Strategic investments have been made to develop lesser known cultivars to make the industry less vulnerable to changes in the production environment • Marketing levy available to develop demand and markets for sweetpotato.
Weaknesses	<ul style="list-style-type: none"> • Limited or no technical access to high value export markets • Domestic-focused industry with limited export experience • Limited awareness about Australian sweetpotato in overseas markets • Lack of market knowledge and differentiation of cultivars • Variable or low consumer awareness of how to cook sweetpotato • Past R&D initiatives and information were based on the broader vegetable industry, rather than being specific to sweetpotato • High costs of production relative to overseas industries • High reliance on the gold sweetpotato with little depth in the category • Variable quality of communications and sharing of information with growers from customers purchasing product through wholesale markets • The Australian sweetpotato industry has negligible share of the growing frozen fries' market in retail and food service sectors • Production vulnerability to seasonal variation, with peaks and troughs in production and supply • Limited supply and inconsistent yields and quality of different cultivars such as red and purple varieties • High reliance on continued access to new cultivars from the USA.

The sweetpotato industry	
Opportunities	<ul style="list-style-type: none"> • The world trade in sweetpotato is increasing year-on-year • There are high value export markets for sweetpotato • Consumer preference for sweetpotato over potato • A high percentage of Australian shoppers are aware of sweetpotato health benefits • Government supportive to improve technical access for existing and new export markets • Consumers connecting with food products and businesses online and in social media • Sweetpotato has nutritious qualities valued by consumers • Increasing consumer demand for safe food • Increase in community association of natural foods with good health • Consumer awareness/expectation of environmentally sustainable production • Supermarkets seeking security of supply • Value chain desire for strategic industry engagement to develop markets • Wider trend towards branding of agriculture products to target specific market segments • R&D applications and modern crop management practices reduce the need for chemical use in production • Availability of technology to improve productivity at all stages of value chain.
Threats	<ul style="list-style-type: none"> • Increasing production from existing and new growers could oversupply the domestic market, with adverse impacts on prices • Australia is potentially an attractive market for large overseas competitors that can compete on the basis of lower prices • Reduced plant health status and performance caused by root-knot nematodes • Competition from other vegetables and food products • Unclear and inconsistent specifications for product quality and grade • Supermarkets eroding supplier brands • Consumer demand for assurance on product integrity and sustainability • Reputational damage if media or online activism highlights incidences of poor production and workplace practices, environmental or product quality performance • Climate change and variability in growing conditions create instability in supply and price volatility • Declining and/or uncertain access to crop protectants needed for optimal production and biosecurity management • Packaging problems, for example, handling, breakdown in transit • Growing competition from other suppliers, for example, USA, Japan, Indonesia, Malaysia, China, Vietnam and South Africa to meet demand in high value overseas markets.

2

SECTION TWO

Sweetpotato industry outcomes

Industry outcomes

The industry outcomes are framed against a broad strategy for the sweetpotato industry over the next five years, which can be summarised as:

- 1. Retain and expand domestic market consumption and demand** for fresh sweetpotato with differentiation from competing products based on consistent quality and nutritional value
- 2. Increase on-farm productivity** for improved and consistent yield and quality that underpins profitable and reliable year-round supply to customers
- 3. Position the industry to diversify into new markets** that offer profitable opportunities
- 4. Protect and enhance industry and product reputation** with the community and governments.

OUTCOME 1

By 2021, domestic per capita consumption of fresh Australian sweetpotato has increased, supported by positive consumer perceptions of product value

In the past decade, expansion of sweetpotato production has met underlying domestic consumer demand and translated into rising per capita consumption along with good average prices.

The strategic intent over the next five years is to maintain and strengthen consumer demand for fresh Australian sweetpotato, as the foundation for sustainable expansion of production and consumption. It means the industry is investing to:

- Broaden consumer awareness so that sweetpotato is more top-of-mind and purchased more frequently
- Support product positioning with consistent quality, evidence of beneficial product health attributes and responsible industry production practices
- Develop strong relationships across the value chain with a shared goal to grow the category.

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

- Up-to-date knowledge of sweetpotato consumers and the product attributes they value most across each consumer segment
- Connecting with consumers to raise awareness, preference and loyalty for Australian sweetpotato
- Meeting or exceeding consumer expectations for consistent quality sweetpotato at point of sale
- Concentrating most efforts on improving demand for gold sweetpotato, while increasing awareness of niche markets for other varieties
- Trusted relationships across the value chain to consistently meet customer expectations.

OUTCOME 2

By 2021, the Australian sweetpotato industry has increased marketable yield per hectare through adoption of technology, management best practice and cultivars

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

- Accelerating widespread 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 applied research and innovation for sustainable sweetpotato growing systems
- Ensuring access to superior cultivars for efficient production that matches consumer quality expectations
- Productive working relationships between Australian and international researchers to access and leverage world class know-how on sweetpotato production

Productivity improvement means: producing more marketable sweetpotato per hectare with the same inputs; or producing the same yield per hectare with lower inputs; or where the same inputs produce a higher value crop, for example, with more consistent quality.

OUTCOME 3

By 2021, the Australian sweetpotato industry has diversified its markets through export development and value adding

The strategic intent of this outcome is to reduce the industry's high dependency on the domestic market for fresh gold sweetpotato. Achieving this outcome will involve:

- Identifying and prioritising market niches (export and domestic) where there is demand and growth potential for competitive supply of quality Australian sweetpotato
- Collaborating with government and other industries to achieve or improve technical market access in priority export markets
- Raising awareness of opportunities and pathways for businesses to be involved in meeting demand in new markets (export or domestic).

As the industry continues to expand its production base, lower costs and strengthen the continuity of year-round supply, its capacity to export and/or supply sweetpotato for processing will also improve. During the life of this plan, the industry will invest to select, access and develop more diversified markets for sweetpotato.

OUTCOME 4

By 2021, the Australian sweetpotato industry has secured and strengthened its good reputation with the community, customers and governments

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:

- Maintaining and improving industry cohesiveness, with the majority of businesses and the majority of industry value actively engaged in implementation of this strategy
- Identifying and prioritising industry-level risks (such as biosecurity, environmental issues or workplace practices) and establishing plans and systems for response to emergencies
- Communicating effectively with growers, value chain firms, the media and governments on what the industry is doing and achieving as a vital part of regional communities.

Achieving this outcome underpins success with all outcomes in the SIP.

3

SECTION THREE

Sweetpotato industry priorities

Industry investment priorities

OUTCOME 1 – By 2021, domestic per capita consumption of fresh Australian sweetpotato has increased, supported by positive consumer perceptions of product value	
STRATEGIES	POSSIBLE DELIVERABLES
Increase domestic consumer demand for fresh, quality Australian sweetpotato	<ul style="list-style-type: none"> • Three-year marketing program designed to encourage more consumers to eat sweetpotato more often • Annual online and in-store programs that promote the product and its positive attributes • Shared understanding with retailers on how to build the category value is incorporated into marketing plans with knowledge communicated across the value chain
Inform consumers about the positive and distinctive health and nutrition attributes of sweetpotato	<ul style="list-style-type: none"> • Marketing and promotional material developed and distributed through multiple channels (online, direct marketing, media) that target priority consumer segments • Current and new knowledge of health and nutrition attributes is available to health professionals and the food media
Monitor current perceptions and experiences with sweetpotato by different consumer segments	<ul style="list-style-type: none"> • Consumer insight reports are produced from market research and shared with value chain businesses including growers

SECTION 3: SWEETPOTATO INDUSTRY PRIORITIES

OUTCOME 2 – By 2021, the Australian sweetpotato industry has increased marketable yield per hectare through adoption of technology, management best practice and cultivars

STRATEGIES	POSSIBLE DELIVERABLES
Promote the use of existing R&D and proven management practices that improve on-farm efficiency and increase yield	<ul style="list-style-type: none"> Tailored information and advice is available to and valued by growers Industry publications and grower forums to raise awareness of practical ways to improve production performance
Facilitate access to protectants of high value to growers	<ul style="list-style-type: none"> National action plans with research evidence required to access selected crop protectants
Maintain and improve access to sweetpotato cultivars that meet market needs and offer superior performance with yield	<ul style="list-style-type: none"> Resistant varieties of gold sweetpotato that are higher yielding are available to the Australian industry New varieties of high performing sweetpotato are evaluated and tested for commercial production in Australia Growers have access to user-friendly information to inform decisions on selection of new cultivars
Innovation in sweetpotato growing systems for sustainable production	<ul style="list-style-type: none"> Program in place for applied research tailored to regional characteristics and leveraging international knowledge

OUTCOME 3 – By 2021, the Australian sweetpotato industry has diversified its markets through export development and value adding

STRATEGIES	POSSIBLE DELIVERABLES
Work directly with major sweetpotato value chain businesses to prioritise three commercially viable market diversification opportunities	<ul style="list-style-type: none"> An export strategy that is valued by sweetpotato businesses A strategy to meet demand for Australian sweetpotato for selected processed products
Develop trade with existing export markets	<ul style="list-style-type: none"> An export manual and production guide for meeting market requirements for high priority existing markets by June 2020
Collaborate with government and other industries to gain technical access to new, high value markets	<ul style="list-style-type: none"> Market access strategy in place for each priority market by June 2020

OUTCOME 4 – By 2021, the Australian sweetpotato industry has secured and strengthened its good reputation with the community, customers and governments

STRATEGIES	POSSIBLE DELIVERABLES
Manage risks to the industry's reputation as a reliable supplier of superior quality, safe and responsibly grown produce	<ul style="list-style-type: none"> National industry crisis management plan developed with priority risk areas (such as biosecurity, environmental, labour practices) identified with tailored response plans, including <ul style="list-style-type: none"> Evidence such as reports and fact sheets of industry performance and practices Incorporation of key messages into industry communications and marketing plans
Strengthen industry cohesion through direct, two-way communication with growers and other value chain businesses	<ul style="list-style-type: none"> Industry communications and engagement plan in place Industry spokespeople are identified and trained in working with media and in crisis management Industry development champion role coordinates flows of R&D information with growers

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 11 cross-sectoral investment themes. We consolidated these themes further and considered their alignment with the Australian Government’s Rural RD&E Priorities and National Science and Research Priorities, to arrive at five investment priorities outlined in **Figure 10**. **Figure 10** also shows how each cross-sectoral investment theme relates to the five investment priorities.

Figure 10: Hort Innovation’s investment priorities



SECTION 3: SWEETPOTATO INDUSTRY PRIORITIES

The sweetpotato SIP outcomes alignment 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 the **Table 1** below.

Table 1: Alignment of sweetpotato SIP outcomes to the Hort Innovation investment priorities

Hort Innovation investment priorities	Sweetpotato SIP outcomes
Support industry efficiency and sustainability	
Improve productivity of the supply chain	Outcome 2: By 2021, the Australian sweetpotato industry has increased marketable yield per hectare through adoption of technology, management best practice and cultivars
Grow the horticulture value chain capacity	Outcome 4: By 2021, the Australian sweetpotato industry has secured and strengthened its good reputation with the community, customers and governments
Drive long-term domestic and export growth	<p>Outcome 1: By 2021, domestic per capita consumption of fresh Australian sweetpotato has increased, supported by positive consumer perceptions of product value</p> <p>Outcome 3: By 2021, the Australian sweetpotato industry has diversified its markets through export development and value adding</p>
Lead strategically to enhance the development of the Australian horticulture industry through operational excellence	Enabler

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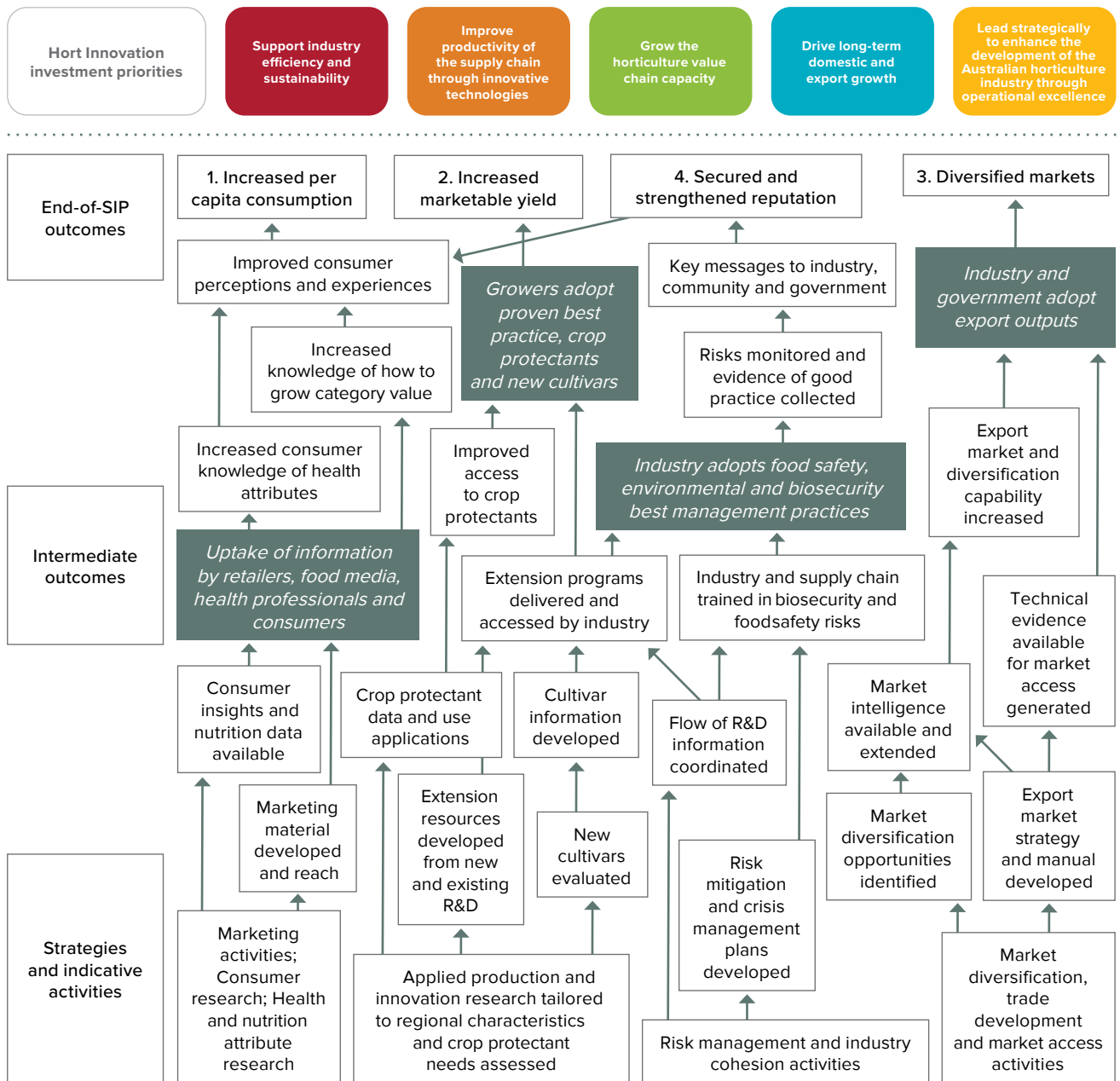
SECTION FOUR

Sweetpotato industry monitoring and evaluation framework

Sweetpotato SIP monitoring, evaluation and reporting

An indicative sweetpotato SIP program logic is shown in *Figure 11*. The logic is based on the Hort Innovation SIP logic hierarchy (*Appendix 2*). The shaded boxes are not fully explicit in the SIP but necessary conditions for the achievement of expected outcomes.

Figure 11: Sweetpotato SIP logic



Sweetpotato SIP M&E plan

The sweetpotato monitoring and evaluation (M&E) plan is shown in **Table 2**. The table includes key performance indicators (KPIs) and data collection methods both at a macro/industry (trend) level and at more specific SIP level/s.

Table 2: Monitoring and evaluation plan for the sweetpotato SIP

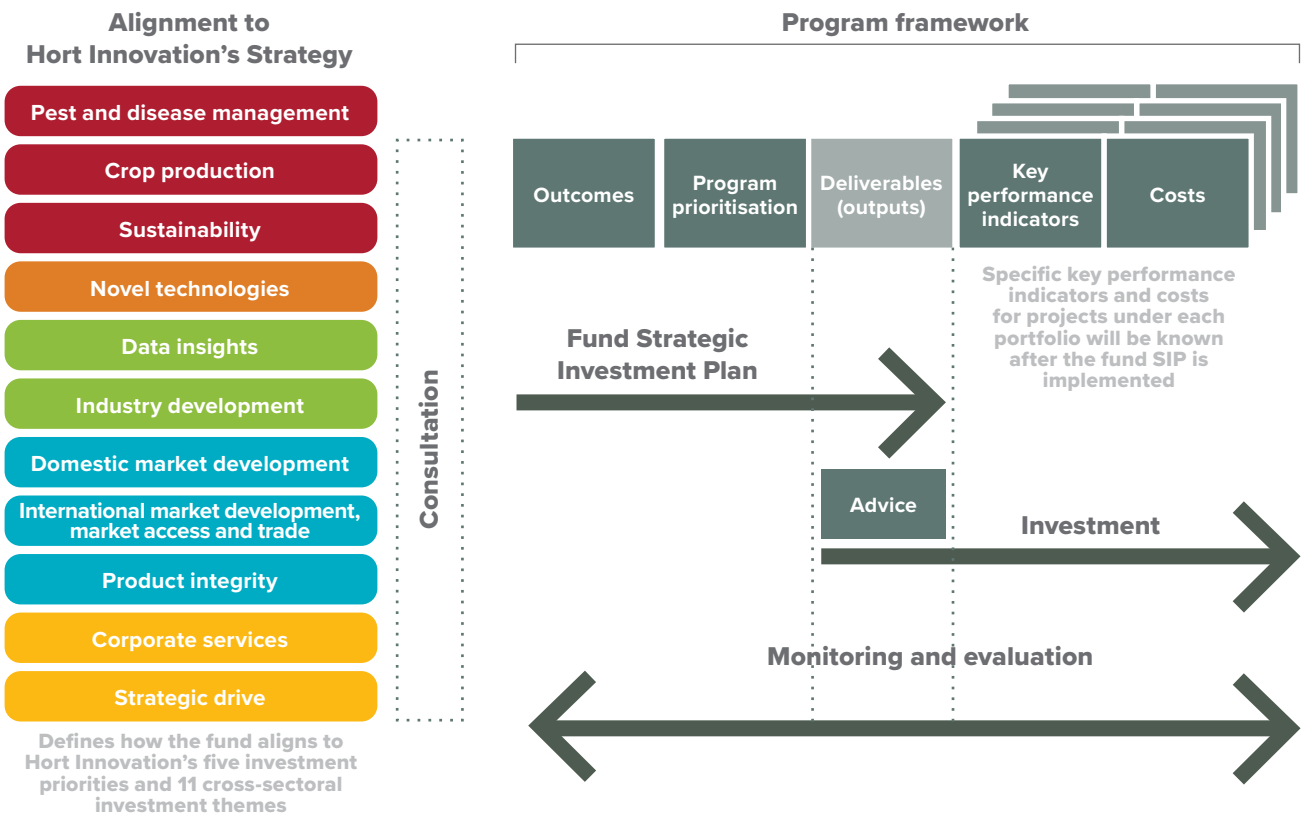
Objectives	Strategies	KPIs	Data collection methods and sources
OUTCOME 1: By 2021, domestic per capita consumption of fresh Australian sweetpotato has increased, supported by positive consumer perceptions of product value	Increase domestic consumer demand for fresh, quality Australian sweetpotato	<ul style="list-style-type: none"> An increase in demand of 20% for Australian sweetpotato e.g. sales volume through major retailers, consumer purchase frequency 	<ul style="list-style-type: none"> Consumer behavioural and attitudinal data Consumer research initiatives and reports
	Inform consumers about the positive and distinctive health and nutrition attributes of sweetpotato	<ul style="list-style-type: none"> Availability of information on health and nutrition attributes of sweetpotato to consumers 	
	Monitor current perceptions and experiences with sweetpotato by different consumer segments	<ul style="list-style-type: none"> Perception attributes for sweetpotato are benchmarked 	
OUTCOME 2: By 2021, the Australian sweetpotato industry has increased marketable yield per hectare through adoption of technology, management best practice and cultivars	Promote the use of existing R&D and proven management practices that improve on-farm efficiency and increase yield	<ul style="list-style-type: none"> Evidence of participation in extension programs/knowledge transfer events by growers and industry 	<ul style="list-style-type: none"> Grower survey/ extension event feedback R&D project records and reports
	Facilitate access to protectants of high value to growers	<ul style="list-style-type: none"> Evidence of awareness and adoption of proven and new technologies and management practices 	
	Maintain and improve access to sweetpotato cultivars that meet market needs and offer superior performance with yield	<ul style="list-style-type: none"> Evidence of improved access to superior cultivars 	
	Innovation in sweetpotato growing systems for sustainable production	<ul style="list-style-type: none"> Increase marketable yield per hectare by an average of 10 per cent 	
OUTCOME 3: By 2021, the Australian sweetpotato industry has diversified its markets through export development and value adding	Work directly with major sweetpotato value chain businesses to prioritise three commercially viable market diversification opportunities	<ul style="list-style-type: none"> Three commercially viable market opportunities are identified for growers and industry Increased exports to existing markets 	<ul style="list-style-type: none"> R&D project records and reports Trade data – volume and value – by country of export Collaboration with DAWR and other government/related industry groups
	Develop trade with existing export markets	<ul style="list-style-type: none"> Evidence of technical access being progressed to new markets with capacity to trade at a price premium 	
	Collaborate with government and other industries to gain technical access to new, high value markets		
OUTCOME 4: By 2021, the Australian sweetpotato industry has secured and strengthened its good reputation with the community, customers and governments	Manage risks to the industry’s reputation as a reliable supplier of superior quality, safe and responsibly grown produce	<ul style="list-style-type: none"> Communication channels utilised to build industry cohesion in the value chain Evidence of risk management through adoption of best management practises 	<ul style="list-style-type: none"> Grower and value chain participant surveys
	Strengthen industry cohesion through direct, two-way communication with growers and other value chain businesses		

Reporting

The program framework in *Figure 12* 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&D, extension and marketing programs.

Hort Innovation will use dynamic reporting against our monitoring and evaluation framework to report on investment progress. The contribution 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 12: Hort Innovation’s program framework

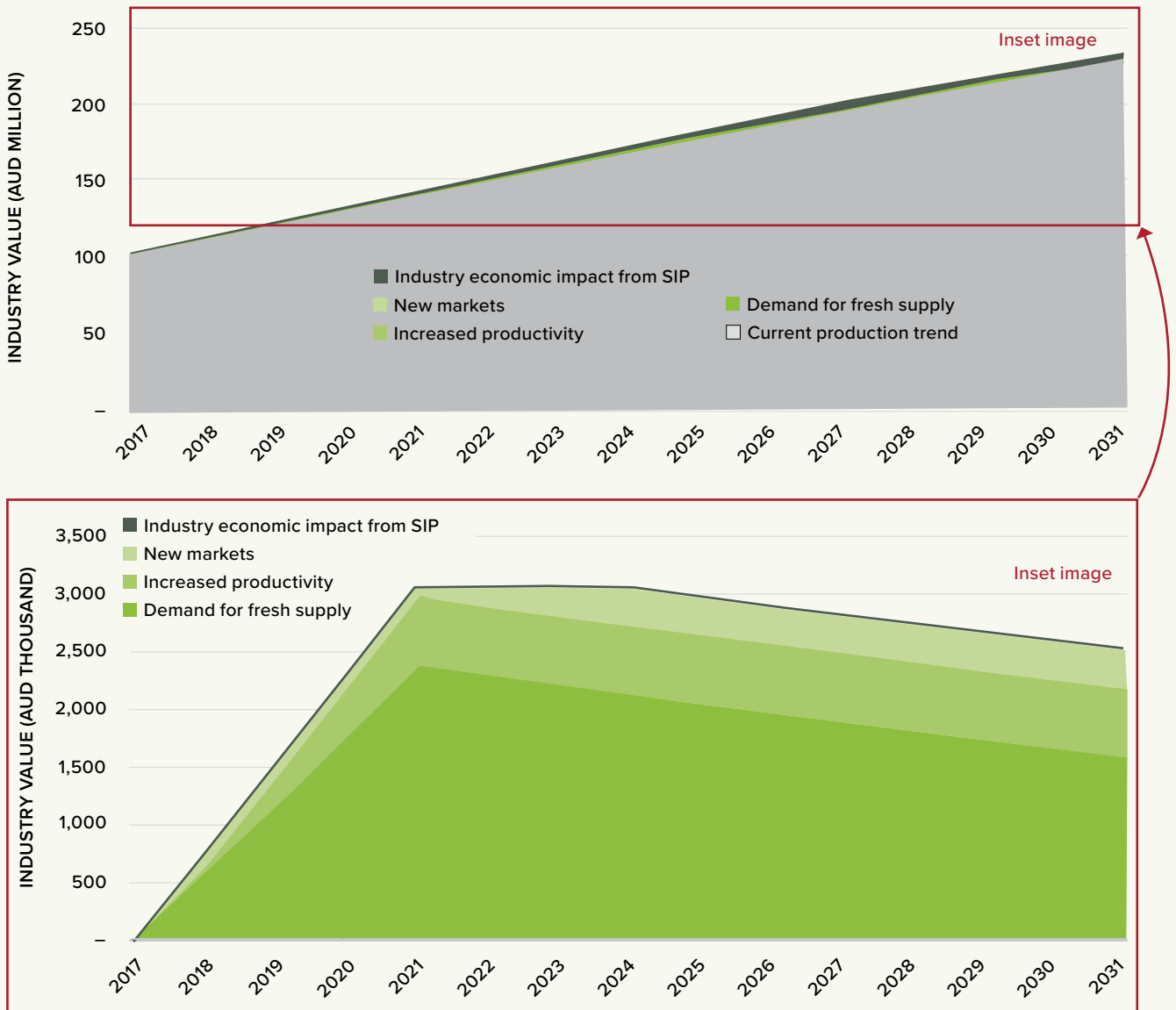


SECTION FIVE

Impact assessment



Figure 13: Economic benefit from investment in the sweetpotato SIP



An independent assessment of the potential economic impacts from investment into the Sweetpotato SIP indicated a positive return on investment for the industry (Figure 13). The anticipated investment of \$9.1 million over the next five years in RD&E and marketing activities is expected to generate \$35.3 million in net benefits for the industry, representing a cost benefit ratio of 3.89 times to the sector.

The assessment draws from a wide range of available data sources, and projects economic impacts over a 15-year period starting from 2016/17. A five per cent discount rate has been applied and all values are adjusted for inflation and presented in 2016/17 dollar terms. The assessment takes a highly conservative approach and the presented figures have been adjusted to account for risks associated with achieving research outputs, expected adoption and impacts.

Table 3 provides a summary of the assessed impacts identified from the SIP, the anticipated deliverables, net economic benefits and benefit cost ratio.

Table 3: Summary of assessed impacts for each SIP outcome

Outcome	Expected deliverables <i>Refer to section 3 for further details</i>	Anticipated SIP investment (over five years)	Net benefits (over 15 years)	Benefit cost ratio
OUTCOME 1: Achieve an increase in domestic demand for fresh supply of sweetpotato by 2021.	<ul style="list-style-type: none"> Marketing campaigns that: a) inform consumers about the positive and distinctive health and nutrition attributes of sweetpotato; and b) develop strong relationships across the value chain with a shared goal to grow the category. Other deliverables will focus on ensuring consistent quality and responsible industry production practices. 	\$3,638,148	\$24,594,047	6.76
OUTCOME 2: By 2021, the Australian sweetpotato industry has increased marketable yield per hectare through adoption of technology, management best practice and cultivars.	<ul style="list-style-type: none"> Applied research and extension activities of new and existing R&D findings to accelerate the application of sustainable production practises that are proven to optimise returns and reduce risk to growers Access to superior cultivars for efficient production that match consumer quality expectations Developing productive working relationships between Australian and international researchers to access and leverage world class know-how on sweetpotato production. 	\$3,638,148	\$7,370,879	2.03
OUTCOME 3: Prioritisation of at least three actionable opportunities to profitably diversity its markets by 2021.	<ul style="list-style-type: none"> Deliverables will aim to reduce the industry’s high dependency on the domestic market for fresh gold sweetpotato and may include a) identification and prioritisation of market niches (export and domestic) where there is demand and growth potential from competitive supply of quality Australian sweetpotato; b) improved technical market access in priority export markets achieved through collaborations with government and other industries; and c) raised awareness of opportunities and pathways for businesses to be involved in meeting demand in new markets (export or domestic). 	\$1,819,074	\$3,379,513	1.86

Outcome	Expected deliverables <i>Refer to section 3 for further details</i>	Anticipated SIP investment (over five years)	Net benefits (over 15 years)	Benefit cost ratio
OUTCOME 4: The industry has secured and strengthened its good reputation with the community, customers and government by 2021.	<ul style="list-style-type: none"> Engaging with most businesses in the sweetpotato sector to implement the SIP Identifying and prioritising industry-level risks and establishing plans and systems for response to emergencies Effectively communicating with growers, value chain firms, the media and governments on what the industry is doing and achieving as a vital part of regional communities. 	Costs integrated into Outcomes 1 to 3.	Benefits calculated in Outcomes 1 to 3.	Not applicable
All impacts		\$9,095,369	\$35,344,439	3.89

The quantified impact associated with Outcome 1:

- Increased demand for fresh supply driven largely by marketing activities direct to consumer, placing an emphasis on building knowledge of product attributes and loyalty for Australian sweetpotato

The quantified impacts associated with Outcome 2:

- An increase in yield due to improved productivity, which may be derived from decreased costs, for example, those associated with pests, weeds and diseases and/ or access to superior cultivars for efficient production that matches consumer quality expectations
- Training and extension activities contribute towards the benefits.

The quantified impacts associated with Outcome 3:

- A 10 per cent increase in exports by 2021 coupled with a gradual increase in value to the grower based on the assumption that export markets may pay a premium for quality 'clean and green' Australian-grown sweetpotato
- Additional value to growers driven by up to 25 per cent of the population paying a 15 per cent premium for sweetpotato varieties marketed a 'super foods'.

Outcome 4 activities, related to the management of knowledge, relationships, systems and processes required to communicate effectively with internal and external stakeholders, will contribute towards the benefits in Outcomes 1, 2 and 3 and are part of their overall return on investment.

6

SECTION SIX

Risk management

The purpose of this risk section is to highlight any unique or specific risks that qualify the Strategic Investment Plan. This is not intended to be an exhaustive risk review of the industry risks which in part are considered in the SWOT. This is also not general investment risks which will be considered in the project investment process.

Besides noting that the industry has a high dependence on the gold sweetpotato variety, no significant or specific risks were found to be worth noting in this risk section.

APPENDIX 1:
Consultation and validation

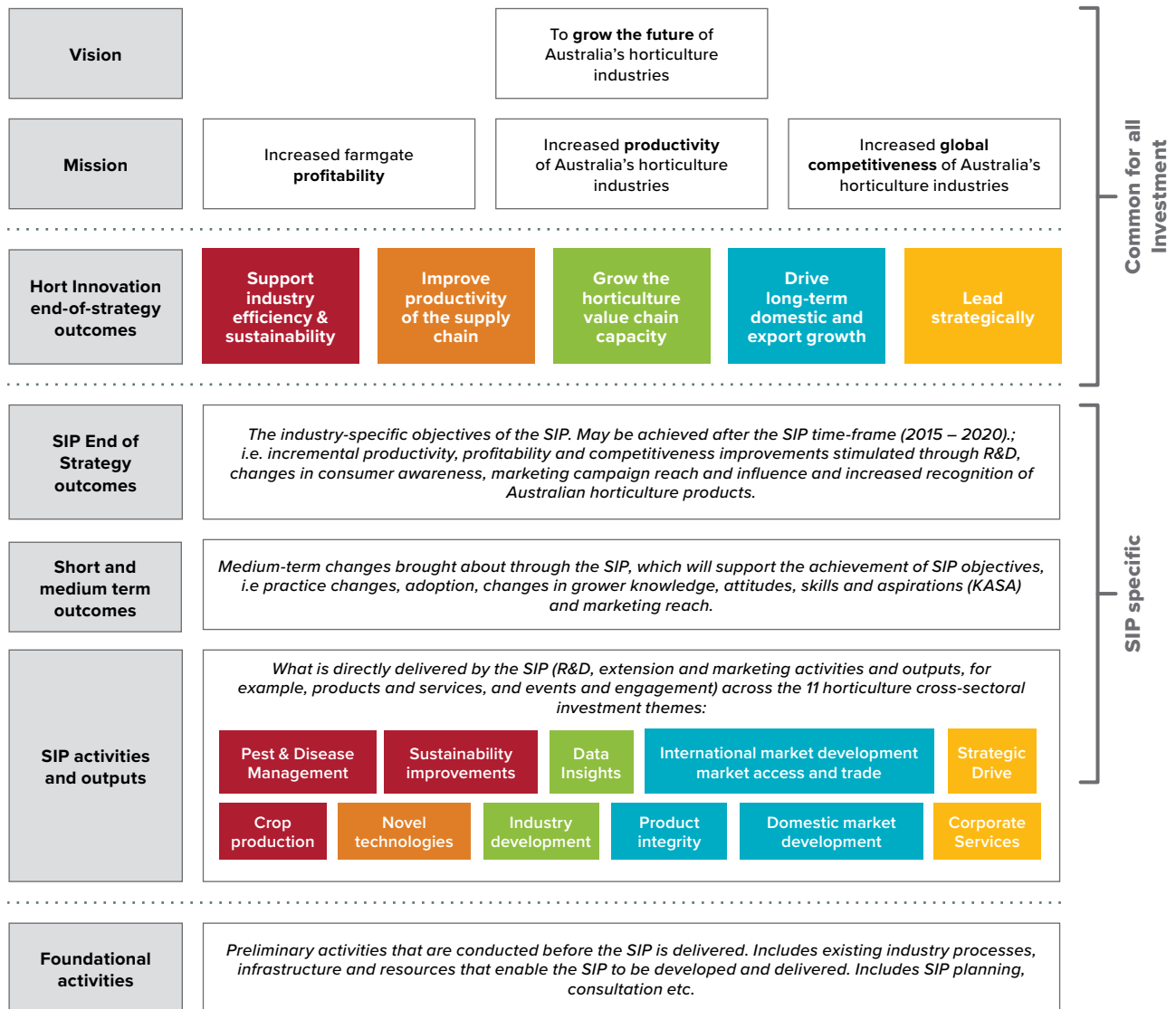
Industry consultation involved a combination of: interviews with individuals, two regional workshops and feedback from a SIAP meeting in February 2018. The following people are acknowledged for their contribution to the sweetpotato SIP process.

Table 4: Meeting and workshop attendees

Bundaberg, QLD Industry Day	Cudgen, NSW Industry Day	Bundaberg, SIAP meeting
17 October 2017	19 October 2017	20 February 2018
Dean Akers	Jean Bobby	Eric Coleman
Mal Beutel	Eric Coleman Jr.	Matthew Prichard
Brendan Boon	Bruno Cuda	Troy Prichard
Judy Boon	Mary Firrell	Sam Tully
Damien Botha	Zeph Hodgiss	Rodney Wolfenden
Nicole Christodoulou	Nick Jess	Linda Zunker
Eric Coleman	Stu Kennedy	
Eric Coleman	Jake Lindstrom	
Chris Davey	Jeff Lindstrom	
Tham Dong	Doug Paddon	
Robbie Doyle	Jim Paddon	
John Duff	Steve Paddon	
Bree Grima	Matthew Plunkett	
Craig Henderson	Henry Prichard	
David Holt	Jane Prichard	
Jady Li	Matthew Prichard	
Glenn Loughman	Robin Scarffe	
Doug Macpherson	Ken Small	
Andy Mead	Brett Steffens	
Russell Mortimer	Heidi Steffens	
Christian Patterson	Luke Trimarchi	
Upamali Peiris	Sam Tully	
Craig Perring		
Chris Prichard		
Daniel Prichard		
Mike Prichard		
Troy Prichard		
Bree Wilson		
Rodney Wolfenden		
Stephen Xu		
Dave Younger		
Darren Zunker		
Linda Zunker		
Ethan Zunker		
Daniel Zunker		
Sandy, Mike and Rachel (DAF)		

In addition, individual telephone interviews were conducted with Dean Akers, Damien Botha, Eric Coleman, Rachel Langenbaker, Matthew Prichard, Troy Prichard, Rodney Wolfenden and Linda Zunker.

APPENDIX 2:
Logic hierarchy



APPENDIX 3: Reference documents

Australian Sweetpotato Growers Inc. (2017) *Australian Sweetpotato Growers Inc.* <http://www.aspg.com.au/>.

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