Apple and pear

STRATEGIC INVESTMENT PLAN

2017-2021

Hort Innovation
Strategic levy investment

APPLE AND PEAR FUND

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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.

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 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 of preparing this SIP was managed by Hort Innovation and facilitated in partnership with Industry Representative Bodies and Strategic Investment Advisory Panels (SIAPs). 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 this SIP, especially apple and pear growers.

The apple and pear SIP

Producers in the apple and pear 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.

Levy is payable on apples and pears that are produced in Australia and either sold by the producer or used by the producer in the production of other goods. The levy rates on apples and pears are outlined in ***Table 1***.

Hort Innovation manages the apple and pear levy funds proportion directed to R&D and marketing investments; separately, Plant Health Australia (PHA) and National Residue Survey (NRS) manage plant health and residue testing programs respectively.

In 2015/16 total apple and pear levy receipts were approximately $5.35 million: $2.11 million of R&D levies and $3.24 million of marketing levies.

Table 1: Levy rates and levy programs *(Source: APAL website)*

	Levy rate	Hort Innovation (R&D and marketing)	Plant Health Australia	National residue survey
Domestic apples (cents/kilogram)	1.845	1.75	0.02	0.075
Domestic pears (cents/kilogram)	2.099	2.024	0	0.075
Export apples (cents/kilogram)	1.845	1.75	0.02	0.075
Export pears (cents/kilogram)	2.099	2.024	0	0.075
Juicing apples (AUD per tonne per year)	2.75	2.65	0	0.1
Juicing pears (AUD per tonne per year)	2.95	2.85	0	0.1
Processing apples (AUD per tonne per year)	5.5	5.3	0	0.2
Processing pears (AUD per tonne per year)	5.9	5.7	0	0.2

Hort Innovation has developed this SIP to assist in strategically investing the collected apple and pear levy funds in the priority areas identified and agreed by the apple and pear industry. The ability to deliver on all the articulated strategies (and investments) in an impactful manner will be determined by the ability of the statutory levy to provide the resources to do so.

This plan represents the Australian apple and pear industry's collective view of its R&D and marketing needs over the next five years (2017 to 2021). The apple and pear SIAP has responsibility for providing strategic investment advice to Hort Innovation. Both Hort Innovation and the panel will be guided by the strategic investment priorities identified within this plan. For more information on the apple and pear SIAP constituency please visit Hort Innovation's website at www.horticulture.com.au.

Apple and pear

STRATEGIC INVESTMENT PLAN 2017-2021 AT A GLANCE

POTENTIAL IMPACT OF THIS PLAN

$163 Million

Based on an estimated investment of $32.23 million over the next five years.

Major opportunities

- To take advantage of the world's best scientific knowledge in agronomy, packaging and pests and disease management
- Promoting the specific health benefits of apples and pears to take advantage of the growing trend towards healthier foods
- The increasing demand for quality fruit in nearby Asian and Middle Eastern markets
- The industry financial resources available to invest in market development.

Major challenges

- An oversupply depressing prices to uneconomic levels
- Threat of biosecurity incursion
- Higher input costs relative to competitors
- Lower and more variable yield than competitors
- Inconsistency in delivering good eating experiences
- Lack of export competitiveness and capability
- Lack of market access into potential markets
- Lack of reliable data on tree plantings and crop forecasts to inform investment decision-making.

OUTCOMES	STRATEGIES
Industry profitability and global competitiveness is improved by reducing the average cost per carton	Drive orchard reworking with emphasis on preparedness for increased mechanisation/ automation/scale
	Continue to build the body of knowledge around pest and disease management and prevention, considering both biosecurity risk mitigation and cost reduction
	Improve soil health and increase knowledge of beneficial microbes in orchard management
	Improve labour productivity through greater adoption of technology and leadership training
	Research IT and data systems that enable better collection and connectivity of orchard and business data at every level of the supply chain
	Extend Future Orchards® concept to 'Future Pack House' with the aims of both cost reduction and quality improvement

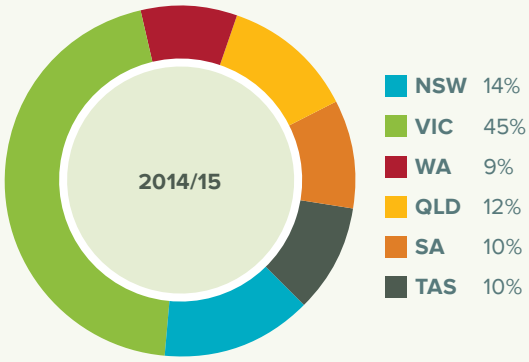
Apple and pear
STRATEGIC INVESTMENT PLAN 2017-2021
AT A GLANCE

OUTCOMES	STRATEGIES
Growing demand in both domestic and export markets has increased the value of the marketable harvest	Develop a marketing plan to drive category growth and engage domestic consumers
	Improve consumer eating experience by better understanding consumer needs (market research) and developing industry responses to the factors impacting quality in every part of the supply chain
	Engage with supermarkets to improve category management and the shopper experience
	Grow non-supermarket channels, particularly the under-represented route and food service channels
	Build export competitiveness and capability across the industry
	Develop targeted export market development plan covering: market research, market access management, global strategic alliances and biosecurity planning
The value of the average bin has risen, resulting in improved industry profitability	Improve quality consistency and percentage of Class 1 fruit per hectare
	Develop opportunities for utilising second grade fruit and waste streams through value-adding and new product development
	Improve industry knowledge and capability in juicing (for fermented and fresh juice markets)
	Raise consumer awareness of the widespread use of imported concentrates
	Increase industry knowledge of marketing as a means of adding to product value
	Improve industry understanding of how contemporary supply chains function (from farm-gate to plate) to help growers maximise value

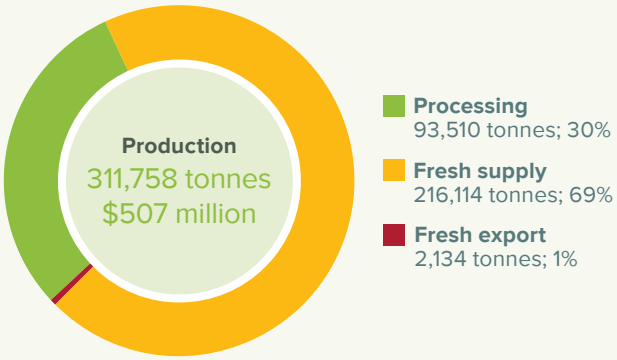
OUTCOMES	STRATEGIES
A cultural shift across industry has better equipped growers for long-term sustainability	Improve grower business skills through offering a business basics program such as financial, leadership, strategic planning, succession plans, marketing and supply chain
	Investigate feasibility of tree register and annual production forecasting process for both biosecurity and investment planning purposes
	Support scholarships for agribusiness graduate management short courses, for example, Hort Innovation Global Masterclass and Rabobank Executive program
	Assist industry to develop new business models that encourage investment, succession and economic sustainability
	Foster better industry participation in future levy funded projects in partnership with APAL (particularly free benchmarking and Future Orchards®)
	Include overseas study tours in young leader's program
	Introduce short course training modules for supervisors in human resources, leadership, team building and cultural skills
	Protect the industry's reputation for safe foods by ensuring industry systems, processes and training are up-to-date and compliant with best practice food handling standards

Apple and pear
STRATEGIC INVESTMENT PLAN 2017-2021
AT A GLANCE

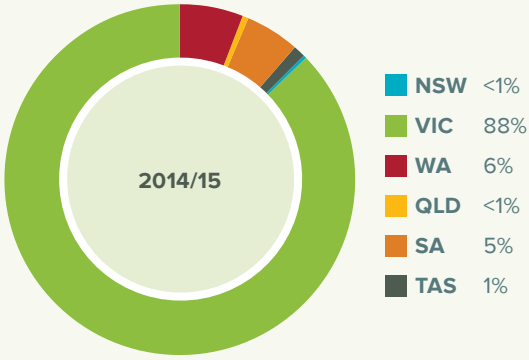
Apple industry size and production distribution



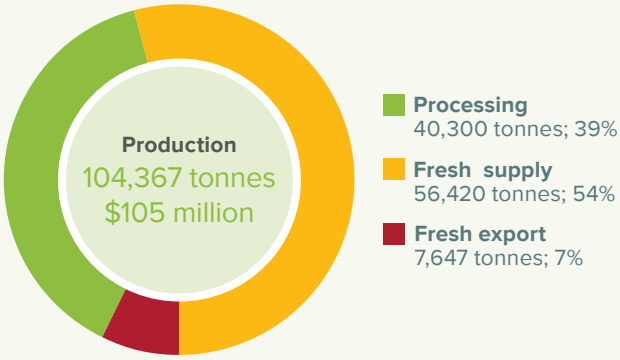
Apple supply chain and value 2014/15



Pear industry size and production distribution



Pear supply chain and value 2014/15



There are approximately 563 apple and pear growers

SECTION ONE

Context

The Australian apple and pear industries

THE AUSTRALIAN APPLE INDUSTRY

Apple industry overview

Table 2: Apple industry snapshot 2015

Production	311,758 tonnes[1]
Hectares under production	10,000 hectares[2]
Production value	$507.4 million[1]
Number of enterprises	563 (including pears)[3]
Exports (value)	$14 million (YTD September 2016)[4]
Exports (volume)	5,564 tonnes (YTD September 2016)[4]

Sources:

[1] Australian Horticulture Statistics Handbook 2014/15

[2] ABS, 2015

[3] APAL.org.au

[4] IHS Global Trade Atlas 2016

The value of the Australian apple industry is approximately $500 million in value terms and production is just over 300,000 tonnes per annum. Production is relatively flat year-to-year, with some variation based mostly on seasonal yield factors.

The total hectares under production is also relatively stable at around 10,000 hectares, although there is some orchard reworking occurring replacing old format orchards with new higher density plantings. As explained later, the variability in orchard formats plus numerous other factors results in an industry average yield estimate that is somewhat meaningless, but one measure provided by Australian National Crop Estimate indicates that average yield for 2016 was approximately 33 tonnes per hectare while the industry benchmarking study figure indicates an average based on participating growers is 47.9 tonnes.

Apple production

Production trends do have seasonal fluctuations but apple production is relatively flat compared to other Australian temperate fruit industries at around 300,000 tonnes of which 200,000 tonnes is sold as fresh produce in the domestic market. This equates to around 70 per cent of total apple production being sold fresh – the remainder goes to various juice, cider and processing outlets. Less than one per cent of apples are exported.

The value of apple production has recovered somewhat in the 2014/15 season to around $556 million. Year-to-year fluctuations in production value are due to market pricing, seasonal conditions and pack-out variability.

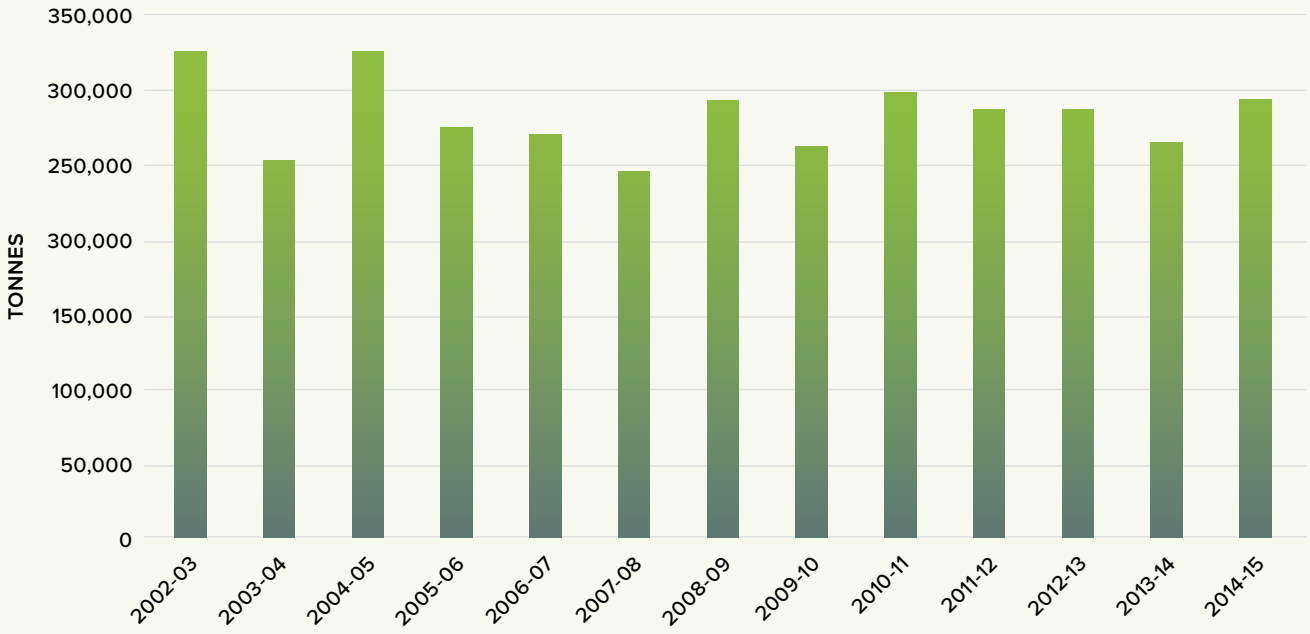
Consultation with industry indicates that the 2016 season shows apple production trends are improving in both marketable yield and value, but the season's store apples were slow to sell through and inventories are said to be higher than average.

As explained in the industry consultation, progressive growers in the industry are adapting their production models, as evidenced by trends such as:

- Planting of club varieties
- Most new replants being intensive planting formats
- The use of netting is increasing
- Investment in automation (or preparedness for automation) is increasing
- Growers are investing in soil health and integrated pest management (IPM).

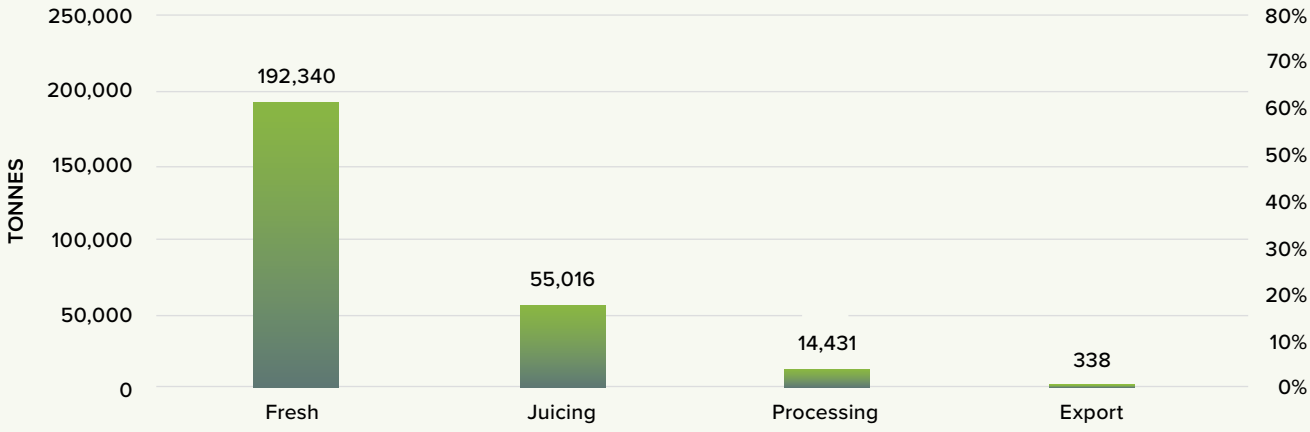
As illustrated in ***Figure 5***, Victoria is by far the largest producing state, with the remainder of production spread across the other states.

Figure 1: Australian apple production trend 2002/03 to 2014/15



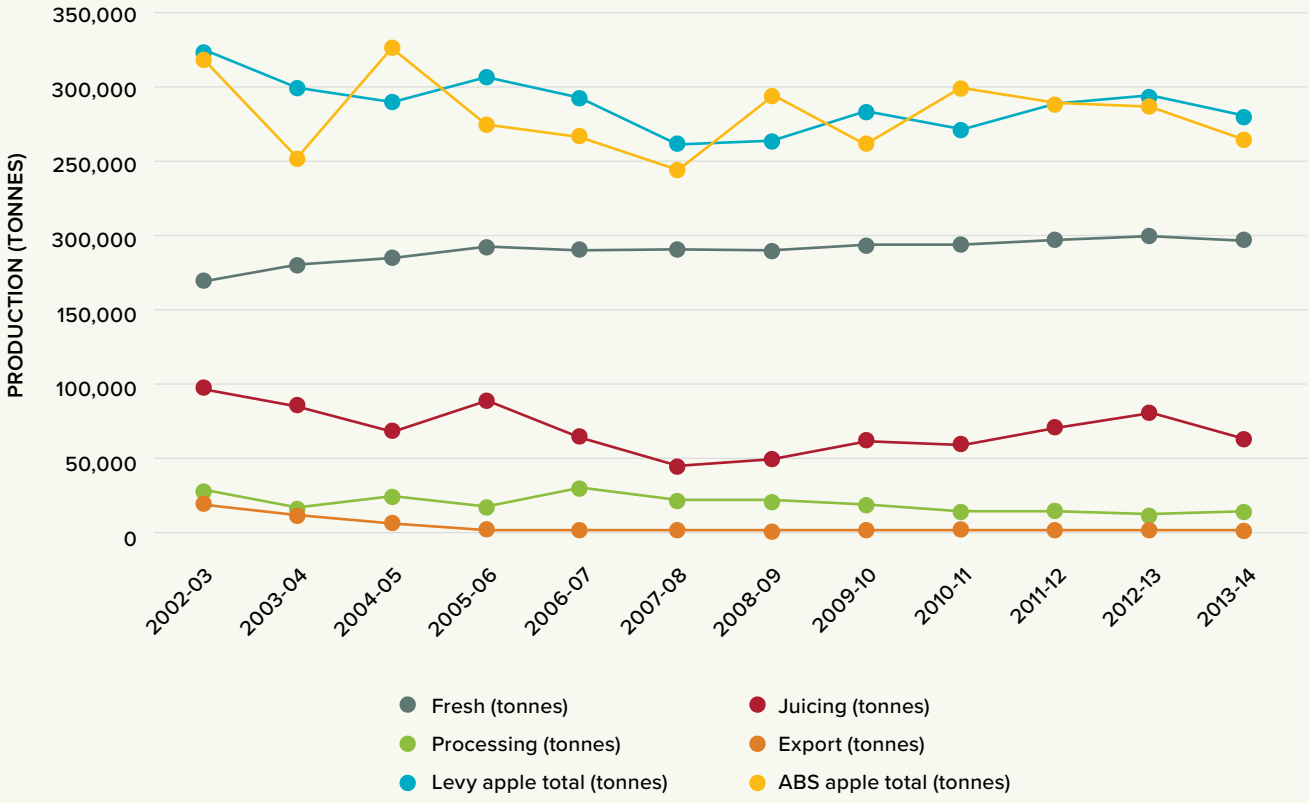
Source: APAL using ABS data.

Figure 2: Apple production by use 2014/15



Source: APAL using data from DAWR.

Figure 3: Australian apple production by type 2002/03 to 2013/14

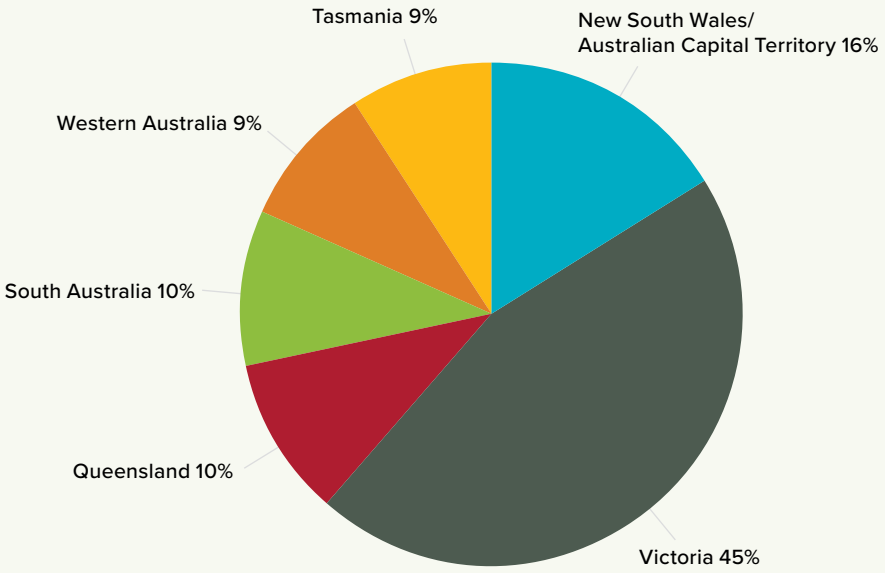


Source: Apple and Pear Industry Statistical Annual 2014 using data from ABS and Department of Agriculture.

Figure 4: Value of apple production trends 2002/03 to 2013/14 ($million)

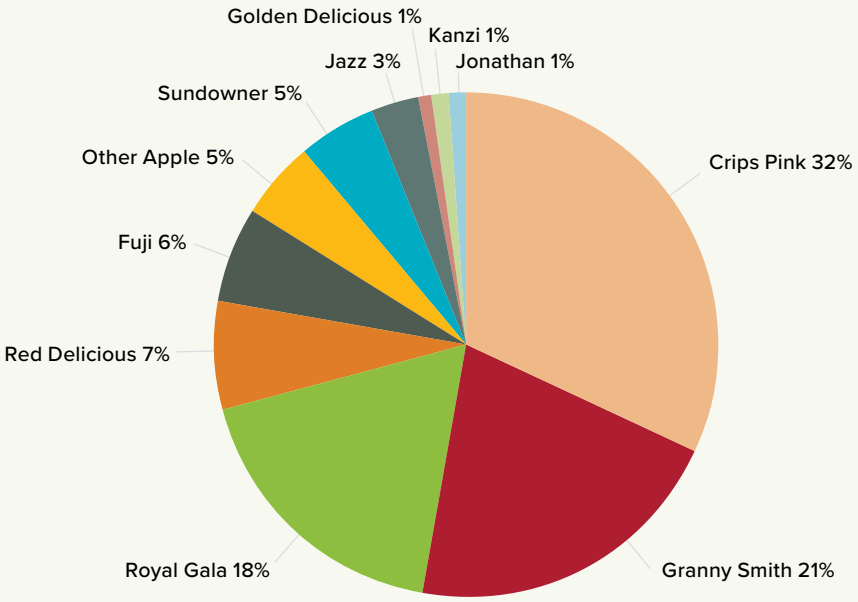
Source: APAL using ABS data.

Figure 5: Fresh apple production by state 2014/15



Sources: ABS and APAL, 2015.

Figure 6: Apple planted area by variety

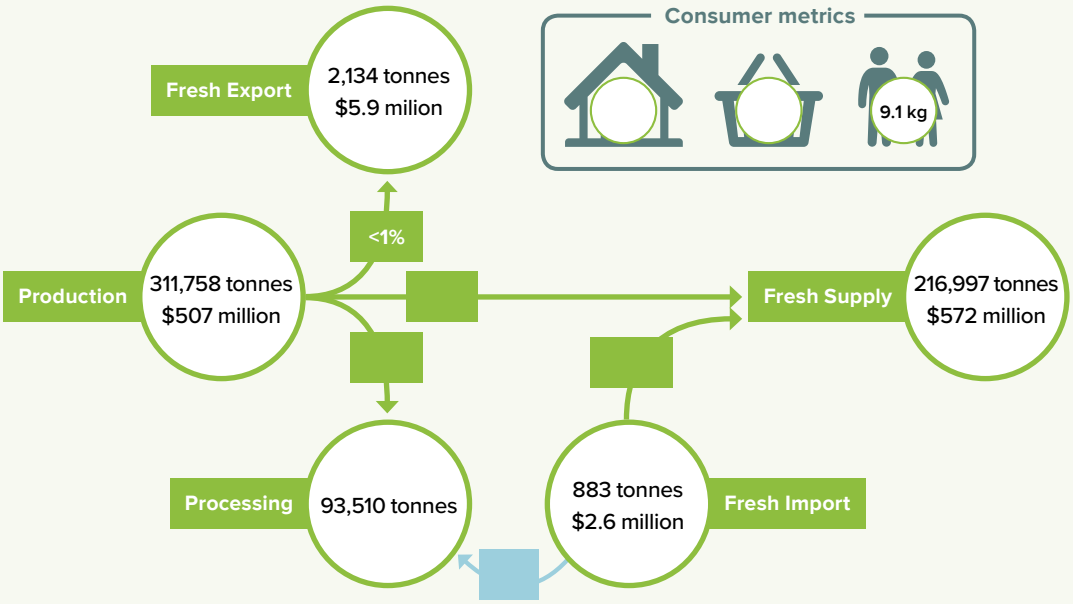


Source: Apple and Pear Industry Statistical Annual – 2014 using Industry Tree Registry data.

Pink Lady (Cripps Pink) accounts for one third of apples sold. Although club varieties account for less than 10 per cent of total production, this is increasing and they represent most new plantings. Club varieties are generally returning a premium price to growers.

There is a significant variation in yield across varieties. Class 1 recovery and yield are not necessarily linked, for example, one variety that presents at the bottom of the yield range, has the highest Class 1 recovery rate. Fruit quality and consistency of performance are becoming a more important decision criteria than yield in variety selection.

Figure 7: Fresh apple supply chain year ending June 2015



Source: Australian Horticulture Statistics Handbook 2014/15

Domestic market – apples

Market channels

Across the supply chain, of the 311,000 tonnes produced, 70 per cent (217,000 tonnes) goes to the fresh market, of which over 88 per cent is sold in retail outlets[5]. Apple and Pear Australia Ltd (APAL) estimates that the supermarket channels take approximately 60 per cent of total harvest. Just over 2,000 tonnes (about one per cent) was exported in the 2014/15 marketing period.

The high industry reliance on the supermarket channel reinforces the importance of supermarket category management as a part of the SIP. Reasons for this are:

- Studies on consumer food shopping habits consistently show that purchase decisions are heavily influenced at the point of sale:
  - **Quality of the product**
  - **Presentation**
  - **Pricing**
  - **Point of sale information and messages**
- APAL estimate that 60 per cent of fresh apples are sold through the supermarket channel so there is a big opportunity to improve performance by:
  - **Working with supermarkets to improve category management (the entire supply chain)**
  - **Understanding the factors impacting quality**
  - **Improving shelf presence and merchandising techniques**
- Being a product of nature, supply and quality characteristics vary. Because different varieties have different shelf life, it is important that they are managed accordingly
- It is vital to move as much product as possible before the peak of the summer fruit season increases competition.

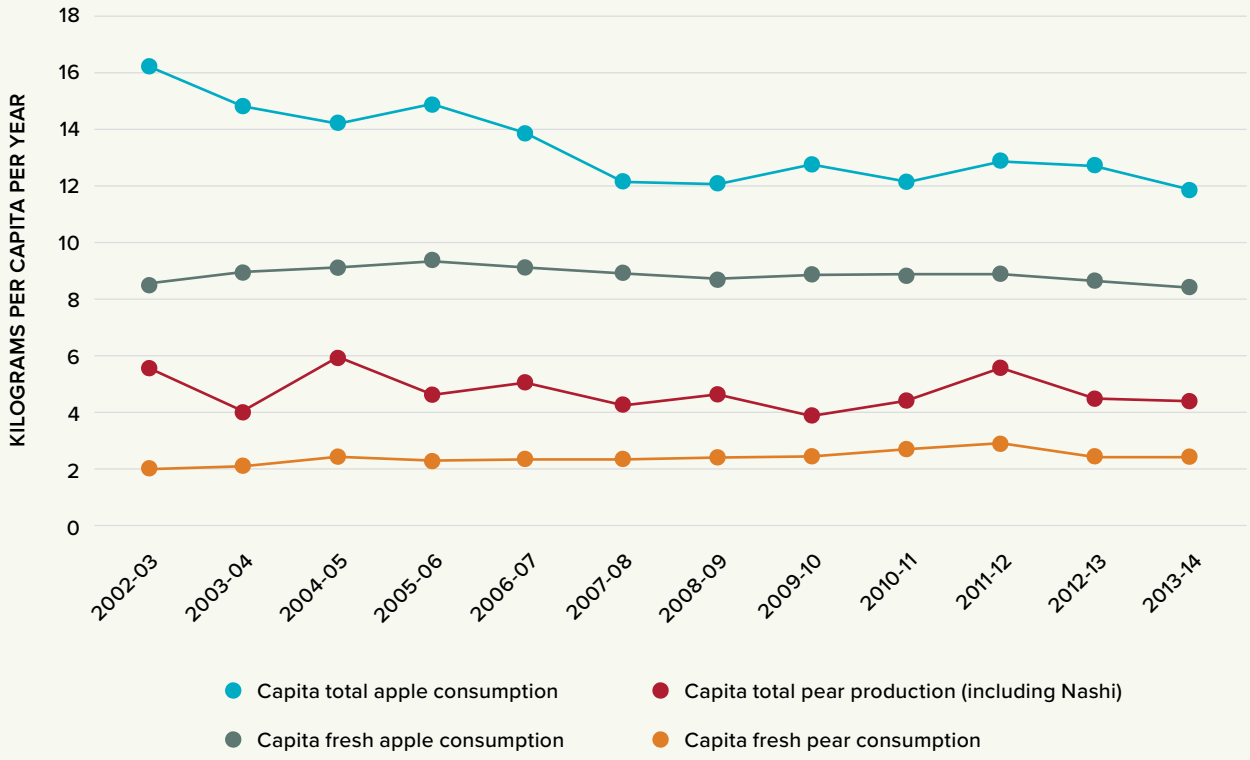
Discussions with supermarket category managers undertaken during the research for this SIP indicate that scanning accuracy is a particular issue for both apples and pears. Supermarkets rely on the scan data to prompt automated reorders, manage shelf allocation and measure category profit. Because apples and pears do not carry a barcode, supermarkets are reliant on the checkout operator, or shopper (in the case of self-checkout) to determine the variety.

While industry tracking data shows that supermarket margins are growing rapidly, in reality, the scanning accuracy is devaluing the category. Scan inaccuracy results in substantial flow-on effects that negatively impact retailers and growers:

- Stock levels of each variety are distorted by inaccurate automated reordering
- Shelf allocation is misaligned with consumer preferences
- Margin loss is incurred
- Lost orders for premium varieties

5 Freshlogic, APAL Data Analysis Report, 2015

Figure 8: Australian apple and pear consumption



Source: Apple and Pear Industry Statistical Annual 2014 using Department of Agriculture data.

- Overall devaluing of category.

Introducing barcodes on the fruit may make it possible to sell apples and pears by the piece, therefore, improving the value proposition relative to processed foods (subject to legal opinion). Increased use of pre-packs are a further solution increasingly favoured by supermarkets who are trending towards this option as the easiest solution to what is a very serious problem for them.

In addition to the inventory management aspects of barcoding and other product ID systems, an industry-wide, mandatory code system would allow true and measurable traceability and accurate grower/supplier identification. Marketing systems such as quick response (QR) codes also present opportunities to market the provenance of fruit to interested consumers.

In addition to the inventory management aspects of barcoding and other product ID systems, an industry-wide, mandatory code system would allow true and measurable traceability and accurate grower/supplier identification.

Apple consumption

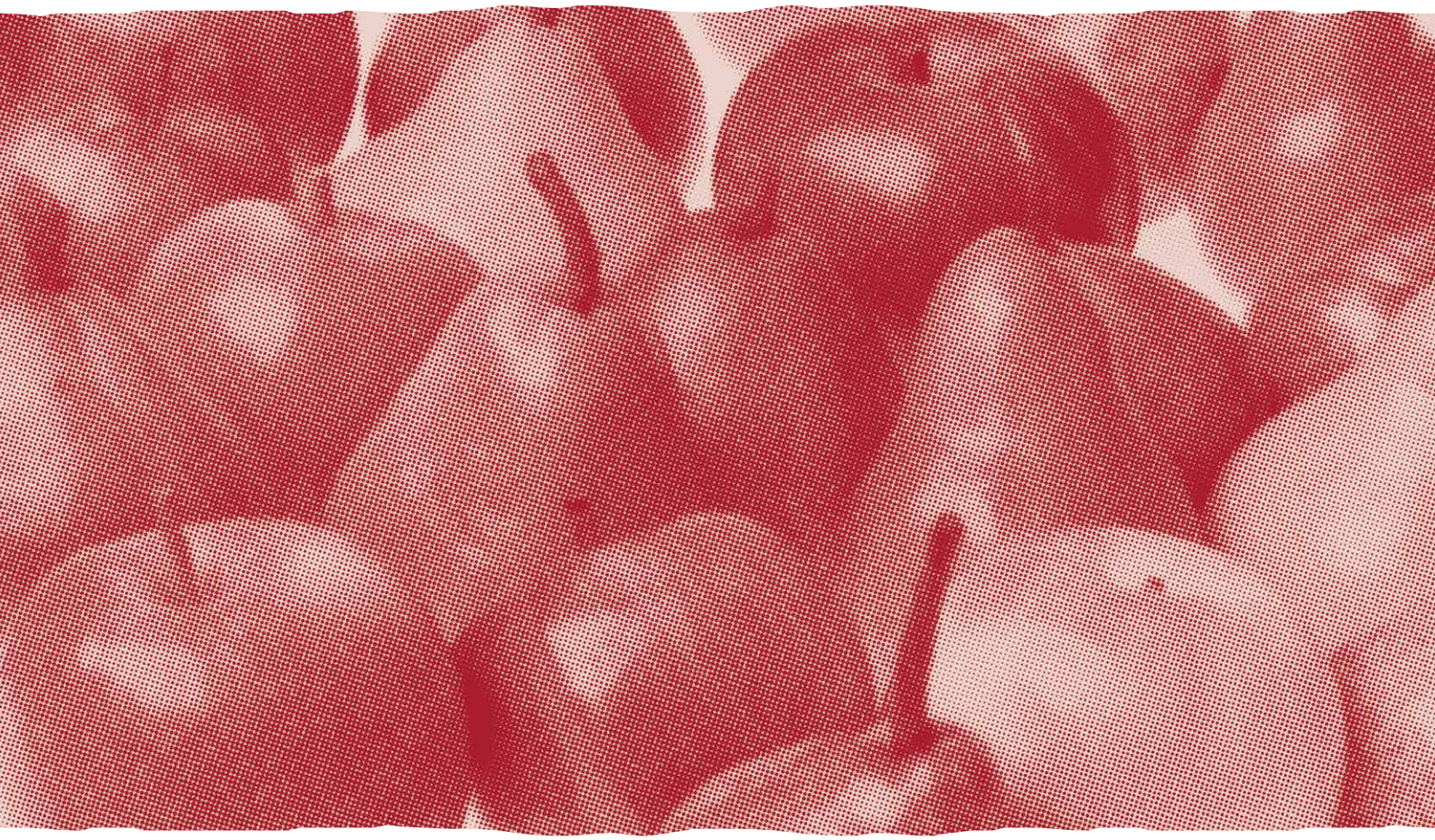
Total per capita consumption of apples has declined steadily but fresh consumption has declined at a much slower rate, suggesting the decline is in processed apples. This has been offset to some extent by growth of the cider category, which is growing at around 9.1 per cent[6] in volume and turning over more than $300 million[7]. According to IBISWorld research, consumption of cider in Australia has more than doubled over the past five years.

Industry feedback suggesting that growers treat low grade production with little care and understanding is an issue because it ultimately limits potential value-adding opportunities and burdens processers with declining processed yield and higher raw material cost. One industry suggestion of engaging with processers to establish the impediments that hold back innovation or growth in this sector has merit.

There are numerous hypotheses about the reasons for declining consumption of apples in Australia, including:

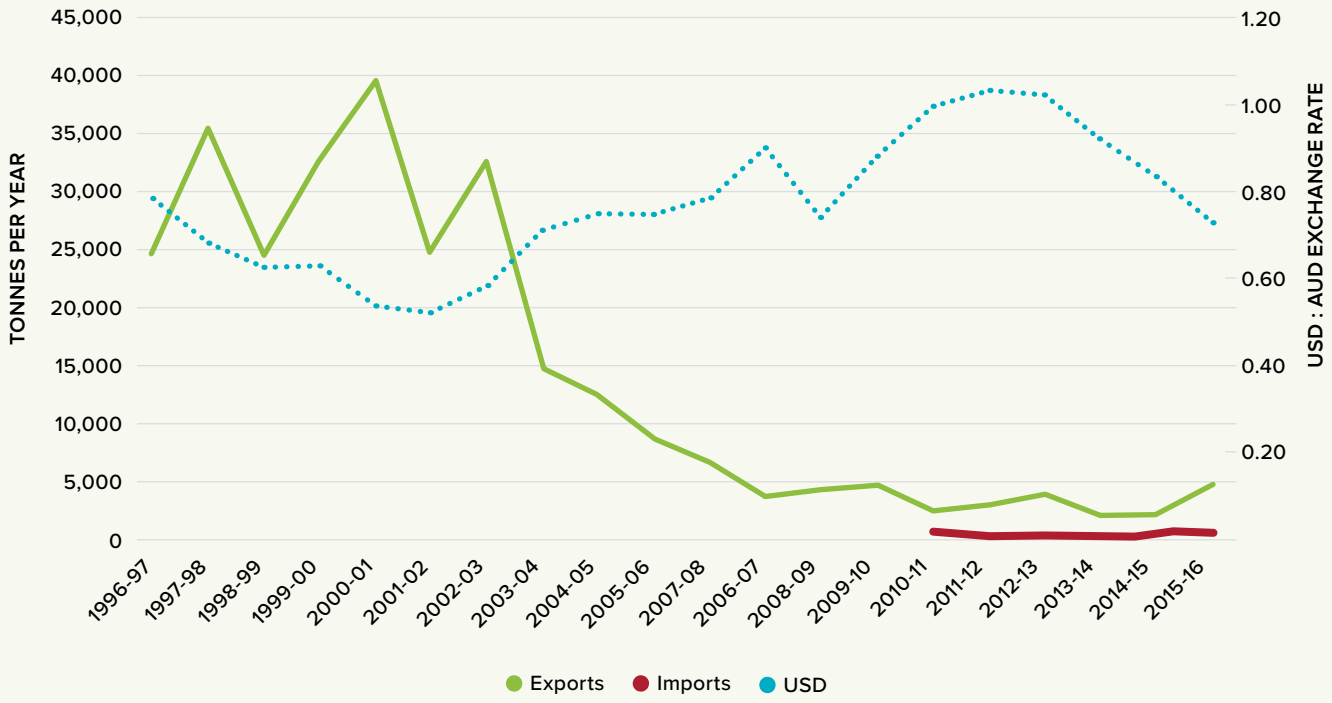
- Strong competition in the snacking and convenience channel with a wide range of health snacks being aggressively promoted
- Lack of strong presence with appropriate product in the convenience channel
- Increasing year-round availability of seasonal fruits such as berries due to protected cropping and imports
- Lack of consumer engagement and knowledge about the category
- Variability in the eating experience (as reported in consultation)
- Lack of a distinctive value proposition
- Failure to define a distinctive health attribute for apples in an environment where consumers are becoming more sophisticated
- Total national consumption is growing slower than the population growth.[8]

Market research in the marketing plan associated with this SIP will be required to clarify the above assumptions.



6 Batlow, Cider in Australia Presentation, 2016
7 IBISworld, 2016
8 APAL from industry presentation, 2016

Figure 9: Export vs import volume fresh apples with USD exchange rate



Source: APAL using ABS data.

Export and import market dynamics – apples

Current state of apple exports

Australian apple exports are currently 5,602 tonnes valued at $14.23 million (12 months to September 2016)[9].

Apple exports have declined steadily over the last decade. In 2002, exports accounted for 10 per cent of total production and are now less than one per cent. The turning point for exports was the rapid appreciation of the Australian dollar that started around 2005 and peaked in 2009. This made Australia uncompetitive in the free markets of South-East Asia against cheaper Chinese and New Zealand product. In the last few years, small export volumes have gone to the United Kingdom in bulk bins for repacking. Australia's largest market is currently Papua New Guinea.

Despite initial industry fears, imports have had minimal impact in terms of displacing local product. Since China gained market access in 2010, there have been some imports, mainly during Chinese New Year. There have also been small tonnages imported from New Zealand. The Aussie Apples campaign generated a strong 'buy local' movement, contributing to commercial failure of imported product.

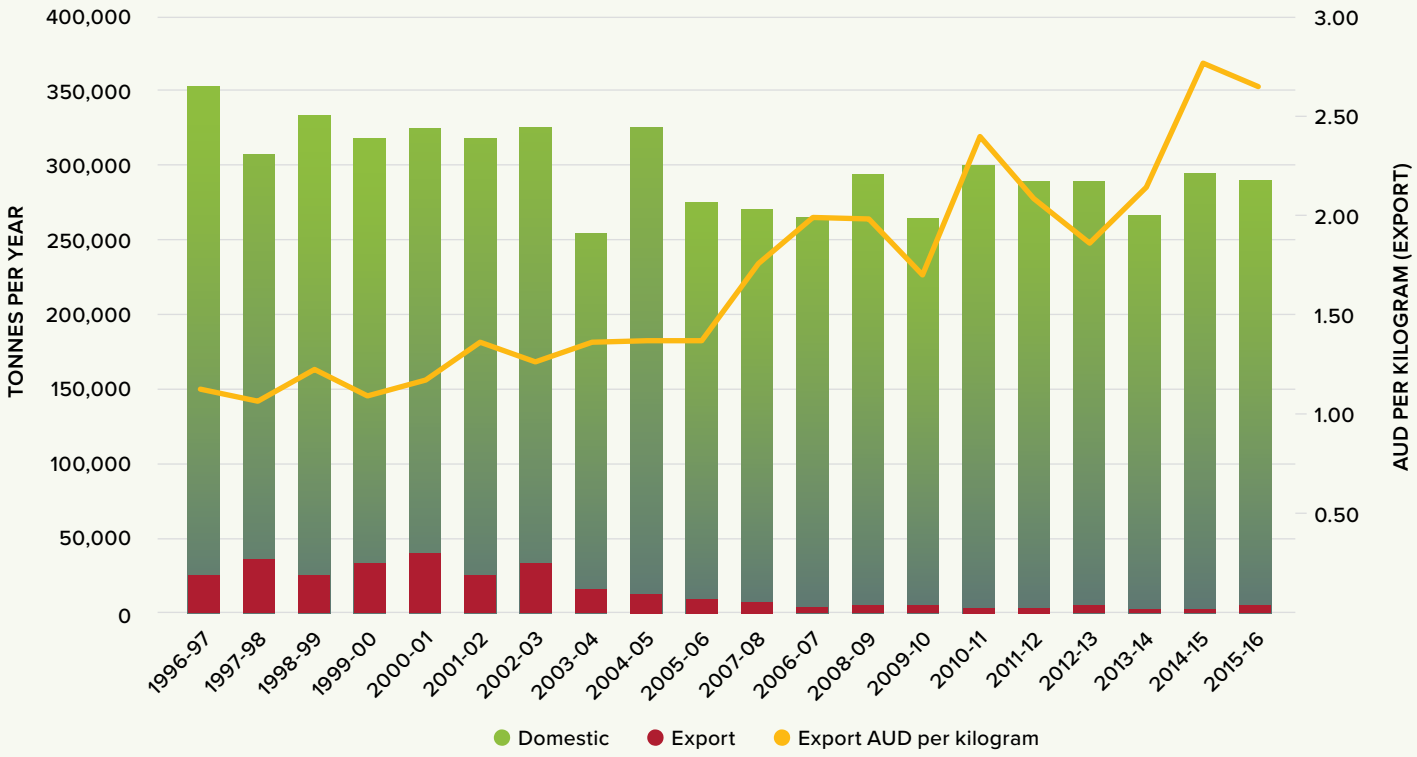
Figure 9 illustrates the extent to which Australia's exports were heavily impacted by the appreciation of the Australian dollar that occurred around 2008/09. However, the appreciation of the dollar does not explain all of the export losses, because recovery has not occurred to the extent that it could have as the dollar has subsequently devalued in recent seasons. In the first three quarters of 2016 there was a 68 per cent increase in exports (albeit from a very small base), making this the highest volume of trade in over a decade.

The apple industry remains almost totally reliant on the domestic market. However, the industry consultation indicated that those who are exporting are achieving price growth with some growers achieving better returns than on the domestic market. This anecdotal reporting is reinforced in the data outlined in ***Diagram 9***, which shows the average prices of Australian exports per kilo Free On Board (FOB) (reference to International Income Terms).

Australia enjoyed strong market penetration in South-East Asia up until 2008 when the dollar appreciated. These markets were then lost to China and New Zealand. The only market with which there appears to be consistent export trade is Papua New Guinea.

9 MT 14006 Export market intelligence, Sept 2016 quarterly, Horticulture Innovation

Figure 10: Australian apple dispersals



Source: ABS data; Fresh Intelligence Analysis, 2016

Blockers to export growth

The strong appreciation of the Australian dollar in the mid-2000s was a clear turning point in Australian exports. At that time, many growers who were successfully exporting lost their export contacts and trading relationships and the industry is only now starting to regain some of this lost market.

While Australia does have reasonably good market access for apples, it is largely uncompetitive in export markets because of:

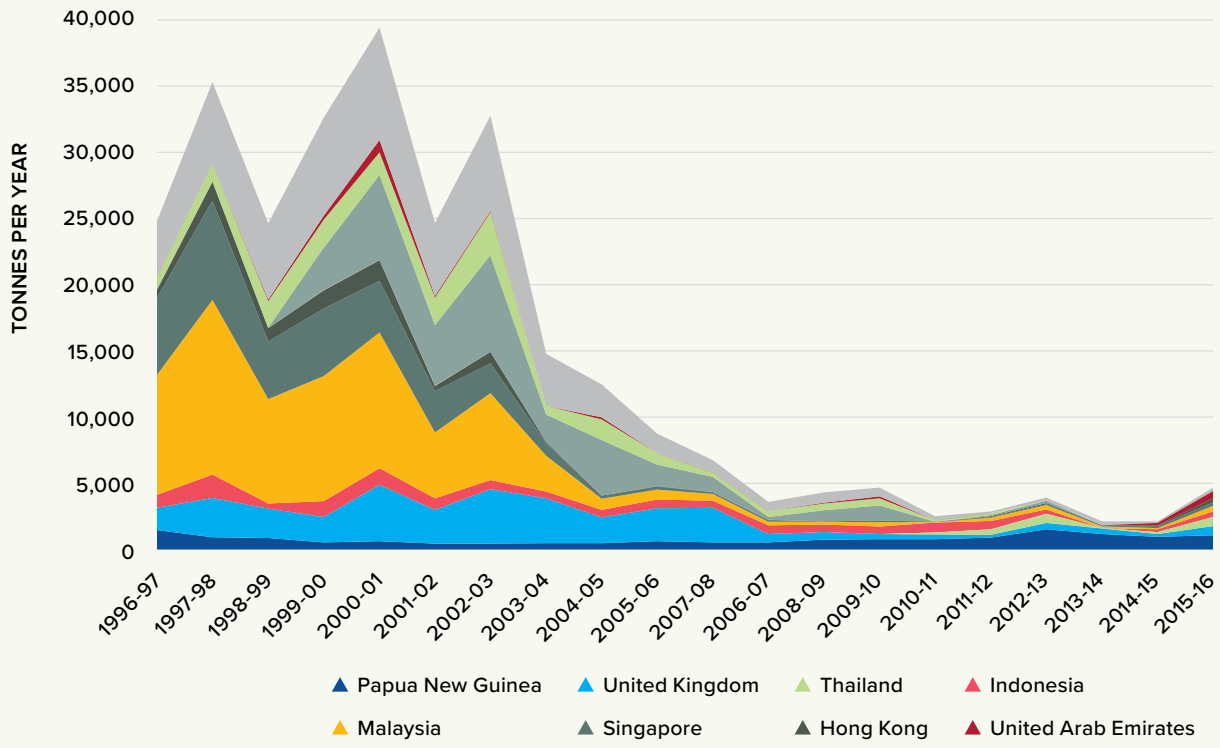
- The high cost of production
- Not having the right varieties for the Asian market (this industry assertion needs to be confirmed through in-market research). Pink Lady is thought to be too tart for Asian palates. Asian consumers prefer Fuji and Gala
- Industry complacency.

The following factors have led to industry complacency about exporting:

- Until recently, returns on the domestic market have deterred investment in developing exports markets
- Smaller growers have traditionally exported through agents, rather than proactively building direct business, which takes time and investment in in-market visits
- Industry has traditionally traded products grown for the domestic market on the export market and in this era of global trade there is now a need to tailor products to export market needs
- Being out of the export market for numerous years, Australia has lost its capability, networks and confidence.

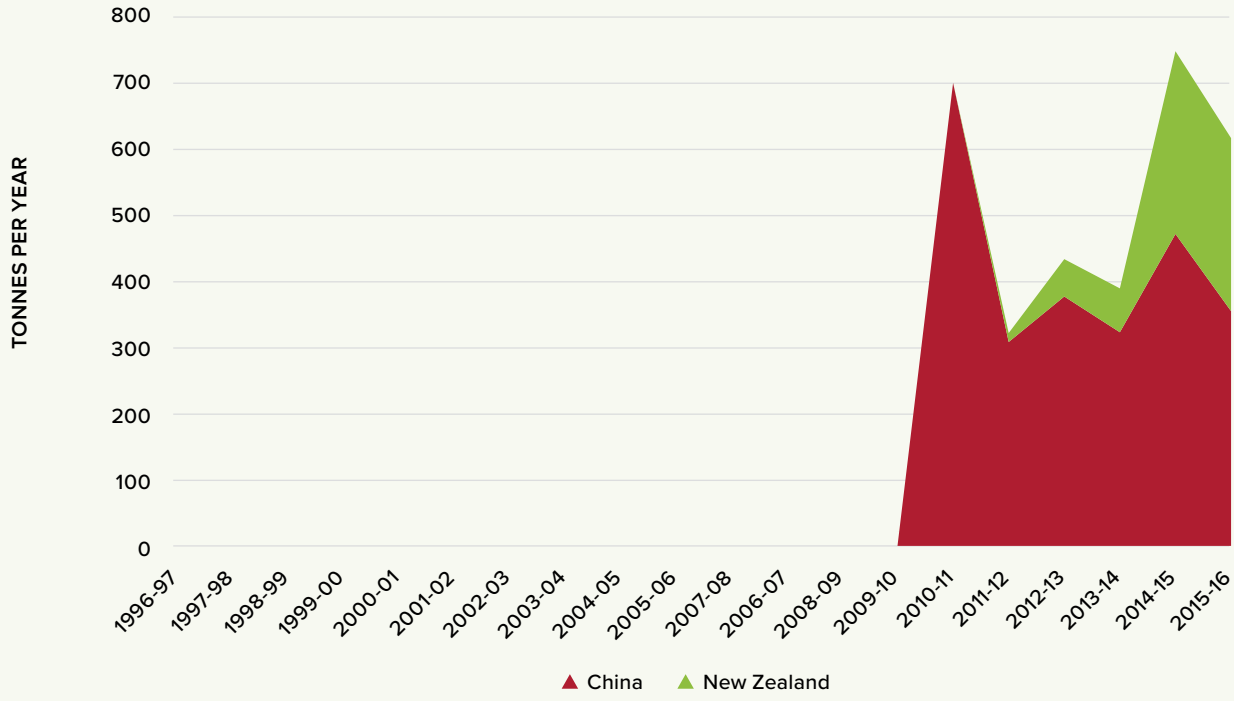
The lack of market access into potential markets such as China is often cited by industry as a long-term barrier to export growth. However, in the short-term, improvements to current market access protocols to make them more commercially viable may be a better investment. It was evident in the industry consultation that many in the industry believe that market access to China will be a 'game changer' for exports, but as China is a net exporter of apples, Australia would need to compete with apples from many other countries in this market for a share of the niche, higher-end retail trade.

Figure 11: Fresh apple exports by market 1997 to 2016



Source: ABS data; Fresh Intelligence analysis

Figure 12: Fresh apple imports by supplier 1997 to 2016



Source: ABS data; Fresh Intelligence analysis, 2016

Current state of apple imports

There are some small tonnages of apple imports from China and New Zealand coming into the Australian market, the former being mostly specialist product sold around Chinese New Year.

Export market development

Given the critical importance of the development of export markets for apples, it is vital that the industry develops a balanced and prioritised five-year export market development plan. It is beyond the scope of this SIP to provide a detailed plan or even identify high prospect markets as ultimately the industry will want to provide direction for the export strategy. The following directional guidelines are presented for consideration in such a plan.

The market analysis suggests a need for a trade development plan on two horizons.

Horizon 1: Short-term

Horizon 1 should be about prioritising trade development activity in the markets that already have workable market access and in markets where access improvement is likely to be achievable in the near future. These markets are likely to be Thailand, Indonesia, China, Canada and the United States. There is also an opportunity to grow the United Kingdom market for Pink Lady, notwithstanding the diammonium phosphate (DAP) residue issue.

Horizon 2: Long-term

Horizon 2 should extend to developing products customised to the preferences of particular target markets (based on variety selection, quality standards, packaging and supply chain).

The horizon 2 strategy will be critical to Australia's success in export markets. Realistically, Australian growers will always find it challenging to compete head-to-head on price with competitors such as New Zealand, China and Europe. Australia must pursue higher value market segments with premium, differentiated apple products supplied through the supply chain appropriate to each business size.

The elements of a balanced export market development plan should include the following:

1. Phased and prioritised market research to understand the market structure, consumer preferences, behaviour, market requirements and opportunities
2. A prioritised market access plan supported by a biosecurity management plan with supporting data for market access protocols
3. A product development plan to develop differentiated apple products that are customised for specific markets
4. A whole-of-supply chain R&D program to identify the requirements for provision of service levels or quality expectations of each market
5. An export development support package to build industry knowledge, networks and capability required to service each of the priority markets
6. In-market consumer engagement/communication and promotion program for priority markets
7. A market intelligence system that keeps exporters in tune with the commercial dynamics of priority export markets.

Given the critical importance of the development of export markets for apples, it is vital that the industry develops a balanced and prioritised five-year export market development plan.

THE AUSTRALIAN PEAR INDUSTRY

Pear industry overview

Table 3: Pear industry snapshot

Production	104,367 tonnes[10]
Production value	$105 million[10]
Number of enterprises	560 (including apples)[11]
Exports (value)	$19.4 million (YTD September 2016)[12]
Exports (volume)	10,569 tonnes (YTD September 2016)[12]

Sources:
[10] Australian Horticulture Statistics Handbook 2014/15
[11] APAL
[12] IHS Global Trade Atlas 2016

In 2015, approximately 100,400 tonnes of pears were produced at a value of $105 million.

88 per cent of Australian pears are produced in the Goulburn Valley. Total pear production has declined steadily over recent years with many producers leaving the industry. 39 per cent of pears go to processing.

Forty four per cent of pear production is the Packham variety and 39 per cent is William Bon Cretien (WBC). In 2015, Packham achieved 66 per cent Class 1 pack out, whilst WBC achieved 15 per cent, reflecting that it is largely a processing variety.

The factors impacting yield for pears are identical to those outlined for apples previously.

Pear production

Pear production has been steadily declining over the past decade, down by 30 per cent from its peak in 2004.

The value of pear production is showing an upwards trend, despite the volume decline, reflecting the shift away from lower value processing to higher value fresh varieties and the impact of rising exports on domestic supply.

The fresh market accounts for 62 per cent of production, processing 34 per cent (primarily juice), and exports, four per cent.

The industry consultation suggested that the reason the production of pears is in a long-term downward trend is due to less area under orchards as growers exit the category because of poor returns and reductions in processing intake.

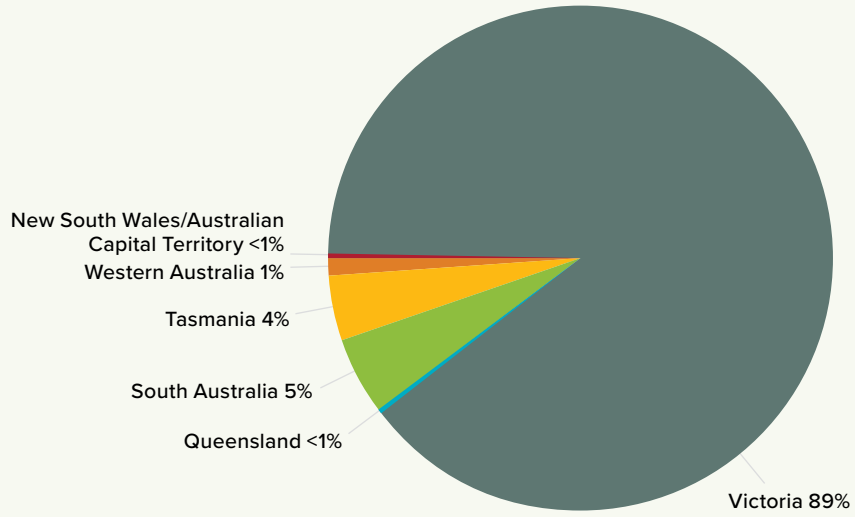
Figure 13: Pear production 2002/03 to 2014/15

Source: APAL using ABS data

Figure 14: Value of pear production 2002/03 to 2014/15

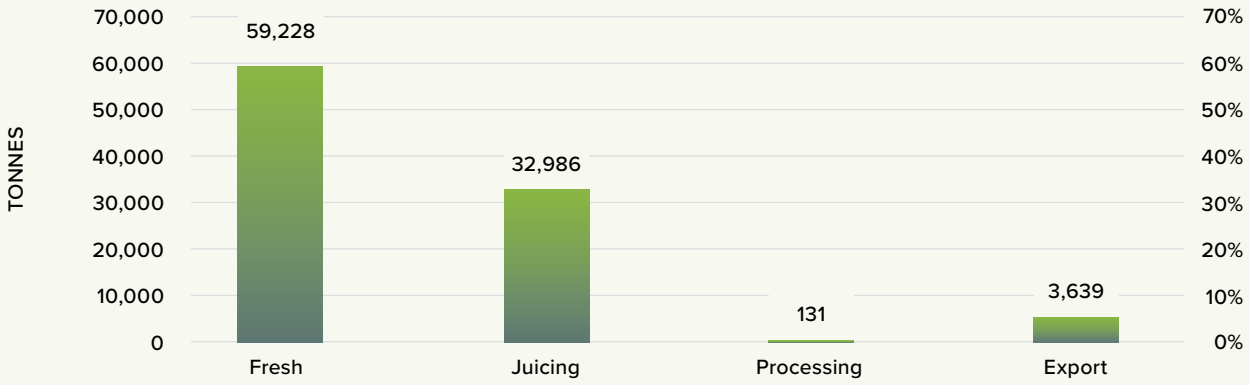
Source: APAL using ABS data

Figure 15: Pear production by state 2014/15



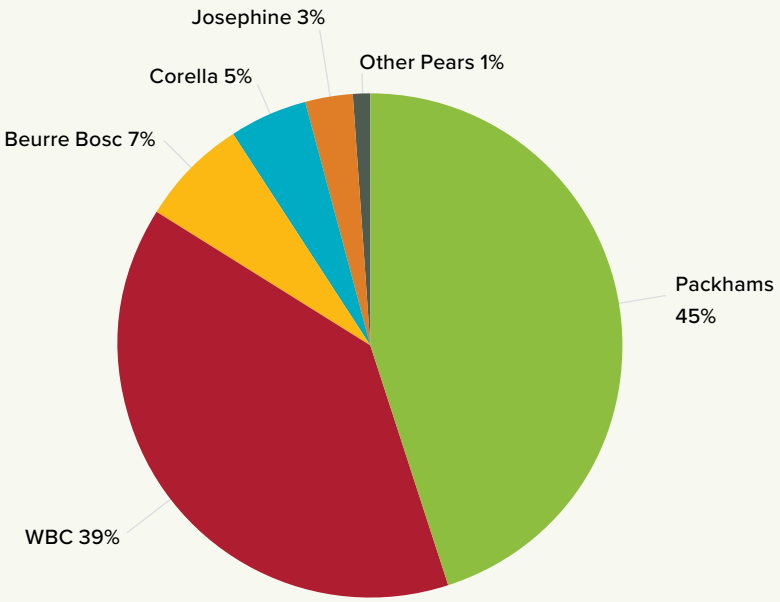
Sources: ABS and APAL, 2015

Figure 16: Pear production by use 2014/15



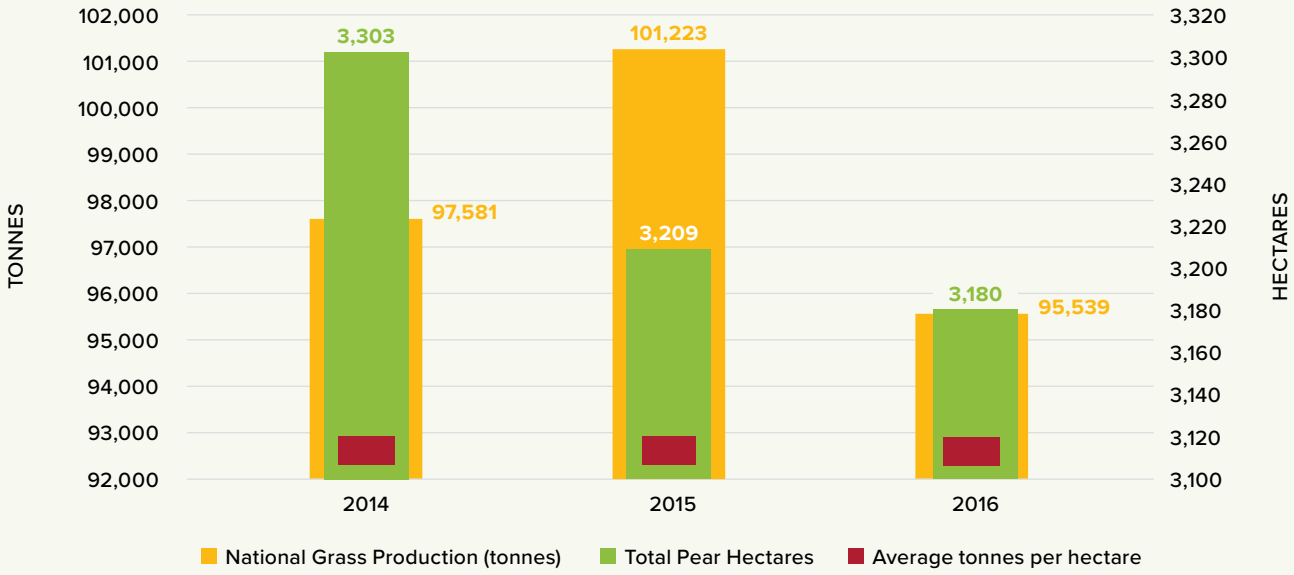
Source: APAL using ABS data, 2015

Figure 17: Pear planted area by variety



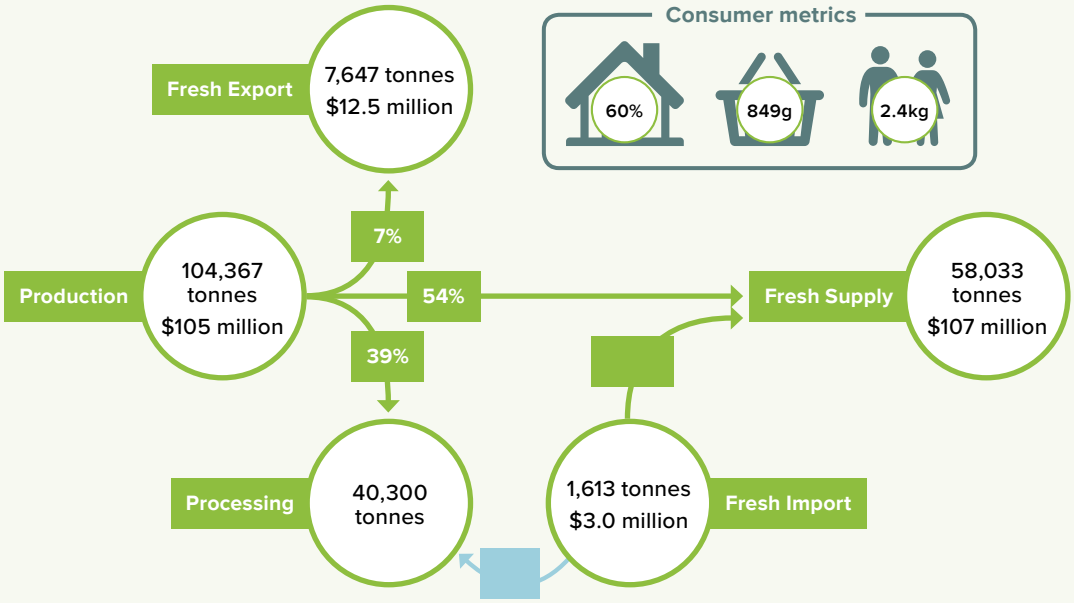
Source: Apple and Pear Industry Statistical Annual 2014 using Industry Tree Registry data.

Figure 18: Gross Australian pear production by area



Source: APAL Australian National Crop Estimate, 2016

Figure 19: Pear supply chain



Source: Australian Horticulture Statistics Handbook 2014/15

Domestic market – pears

Market channels

Fresh pear consumption per capita is relatively flat, unlike apples, which is declining. The industry marketing plan highlights the fact that the pear consumer is a rather different demographic to apples and pears tend to be eaten fresh by older consumers.

Pear consumption

The frequency of pear purchases differs from apples, which are consumed more frequently:

- 26 per cent of consumers eat pears at least weekly (three per cent lower)
- 63 per cent eat pears at least monthly (four per cent lower).

Likelihood of purchasing in the next two weeks:

- 56 per cent are very or quite likely (one per cent lower).

Source: edentify – Fruit Tracker Apples & Pears June 2016.

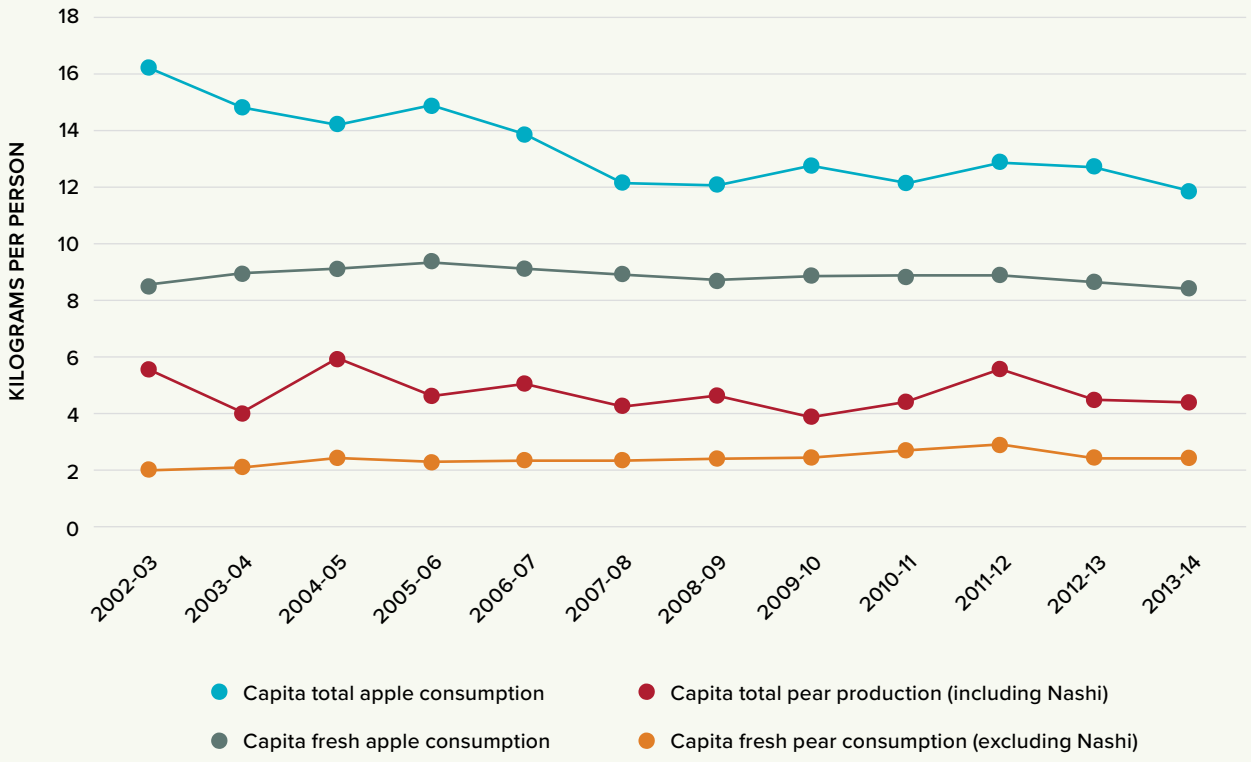
The industry market research highlights that consumption trends in pears are markedly different to apples, requiring a dedicated marketing strategy. Pears have higher application than apples in cooking as they are consumed regularly in both at-home and away-from-home meals in:

- **Salads**
- **Cheese platters**
- **Desserts**
- **Baked meat dishes.**

The industry research from Hort Innovation indicates that barriers to purchase for at-home consumption of pears are:

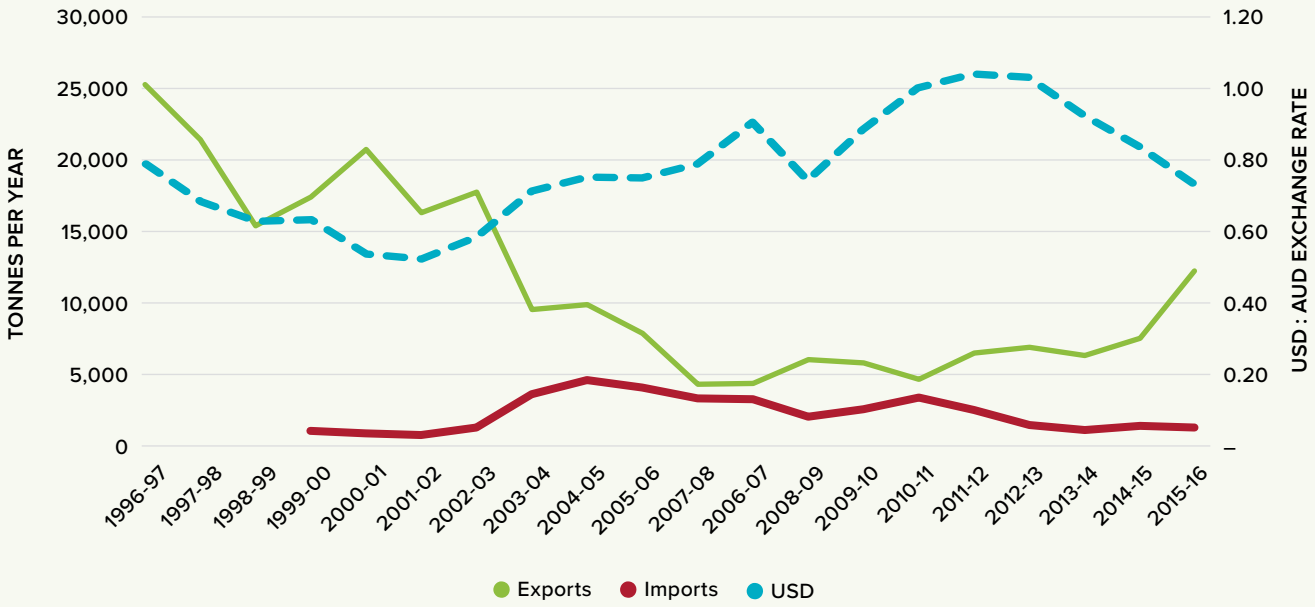
- **Inconsistency of eating experience**
- **Not a top-of-mind purchase**
- **Merchandising: pears are sold in an unripe state and not ready to eat**
- **Messy to eat**
- **High sugar/fructose (avoidance on FODMAP, diabetic and low sugar diets)**
- **Consumer knowledge on selection and storage for optimum eating quality.**

Figure 20: Australian apple and pear consumption per capita



Source: Apple and Pear Industry Statistical Annual 2014 using Department of Agriculture data.

Figure 21: Export vs import volume fresh pears with USD exchange rate



Source: ABS data; Fresh Intelligence Analysis

Export and import market dynamics – pears

Current state of pear exports

Australia exports approximately ten per cent of its pear crop (note: data sources vary on this figure). Exports were severely disrupted with the appreciation of the dollar but have now recovered strongly with the lower Australian dollar.

European pear varieties have less competition in Asia as Chinese growers predominantly produce Asian pears. The down side is that these markets need to be educated about the Australia product and the eating attributes of Australian varieties.

Although pear exports are less sensitive than apples to exchange rates, they have shown steady growth since the Australian dollar has come down.

The main destinations for Australian exports are Indonesia (growing market), New Zealand, Hong Kong, Canada and Singapore. The opportunity to rebuild the Indonesian market has come from recent supply failures from South Africa and industry is quite positive about the potential growth in Indonesia.

Blockers to export growth

Blockers to export growth in pears are comparable to those for apples.

Current state of pear imports

Australia imported 1,969 tonnes of pears for the year to September 2016. Imports were mostly from China with a small amount imported from South Korea. The average price of imported fruit was $1.59 per kilogram.[13]

Export market development

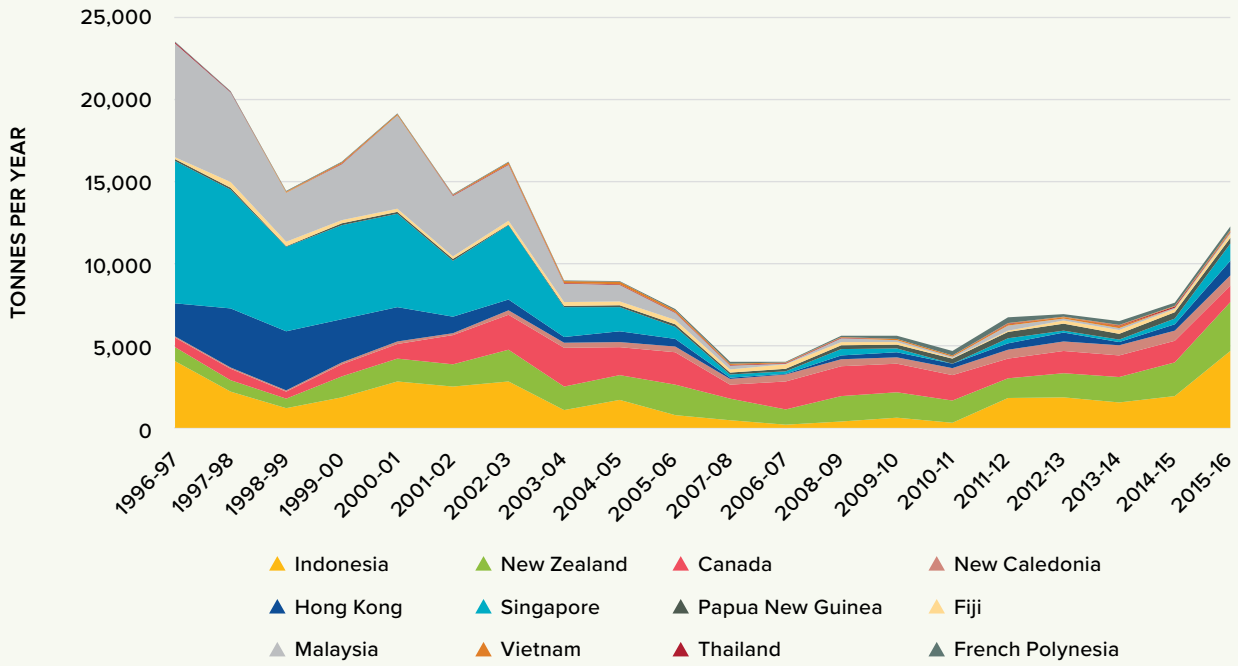
The pear category also needs an integrated, five-year export market development strategy like that for apples.

Pears seem to have brighter prospects for earlier export success than apples. Pear exports are significantly higher than apples at present. It suggests that pears would benefit from a higher level of investment in export development than they have previously. Pears face less direct price competition than apples.

While Indonesia is already a growth market, the European markets are showing strong potential for Australian pears as European consumers do not enjoy Asian pears. This means that Australia has a strong point of competitive advantage over China. Again, as for apples, pears would benefit from more focus on variety development and fitness for market.

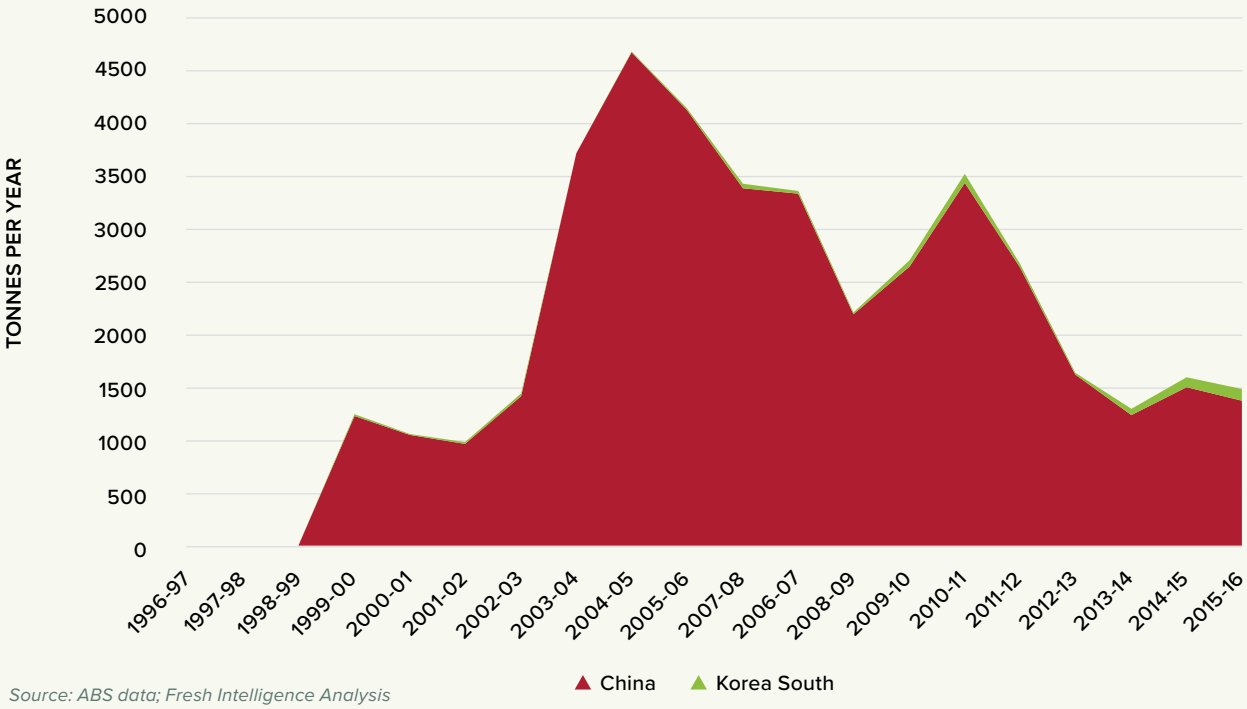
13 Hort innovation, MT14006 'Export – Import Market Intelligence Project' Quarterly Report

Figure 22: Fresh pear exports by market 1997 to 2016



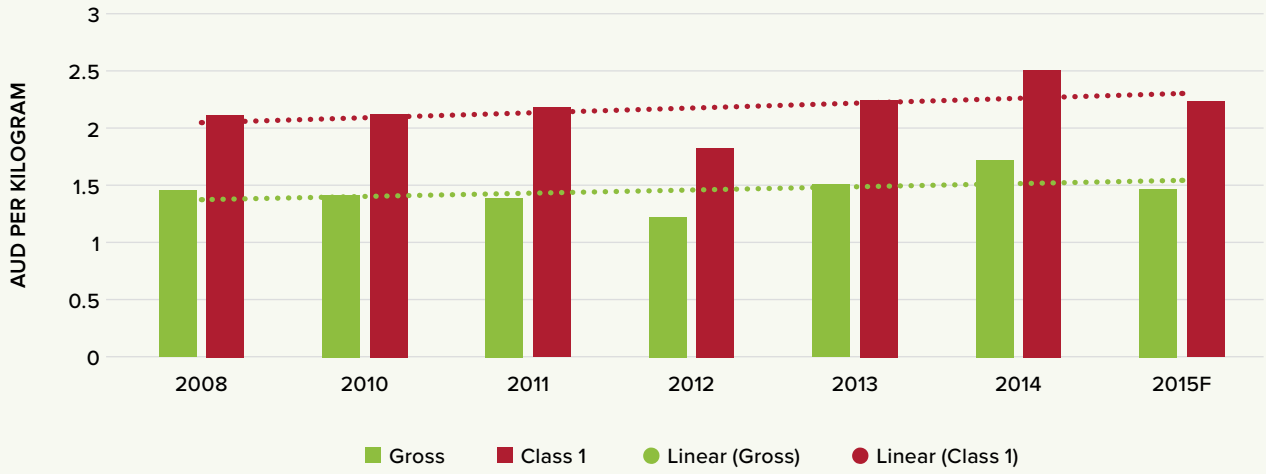
Source: ABS data; Fresh Intelligence Analysis

Figure 23: Fresh pear imports by supplier 1997 to 2016



Source: ABS data; Fresh Intelligence Analysis

Figure 24: Wholesale prices for Australian pome fruit



Source: APAL, 2016

Pome fruit industry profitability – apples and pears

There is evidence of substantial variation in profitability across the industry but for reasons of commercial confidentiality, the supporting data from industry benchmarking studies that illustrates this cannot be published in the public domain. According to the industry benchmarking data, profitability is heavily driven by yield and management capability.

Regarding industry profitability, the industry data (including insights taken from viewing the profit and loss statement of one industry leader) shows that by normal profitability measures of earnings before interest, tax, depreciation and amortisation (EBITDA), the better performing businesses are achieving profit levels which by most small and medium enterprises (SMEs) business standards would be at the higher end of the spectrum. However, on the second standard measure of financial performance return on investment (ROI), the returns are lower than average because of the capital intensity of best practice pome fruit orchards which cost over $100,000 per hectare to establish.

The biggest cost item in both apple and pear production is labour. All activities from field production to packaging and grading are highly labour intensive. Again, for reasons of commercial confidentiality, industry is not able to present the cost breakdown documents that are not in the public domain other than to note that the benchmarking data reveals that labour is overwhelmingly the greatest cost item. The industry consultation also confirmed that labour is by far the biggest single cost item. The key labour issues noted in the consultation were:

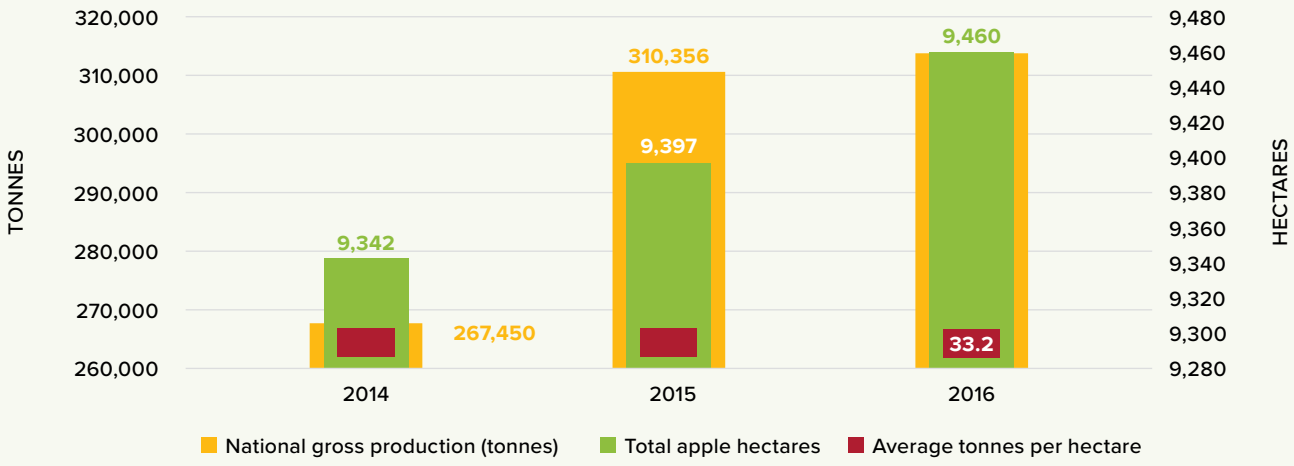
- The award wage rate
- Penalty rates and restrictions
- The backpacker tax
- Labour add-on costs
- Availability of labour
- Skill levels
- Productivity levels
- Challenges of managing a seasonal workforce with cultural and language considerations.

Prices

Apple prices are highly sensitive to supply, which means that orchard income can reduce in high production years. Specialty and club varieties achieve a significant premium over commodity lines which highlights to industry the opportunity for greater production. Although there is a large amount of seasonal variability, on a long-term basis, income has kept up with cost reduction largely due to yield increases.

Apple prices are highly sensitive to supply, which means that orchard income can reduce in high production years.

Figure 25: Gross Australian apple production by area and yield



Source: APAL Australian National Crop Estimate, 2016

Factors impacting yield

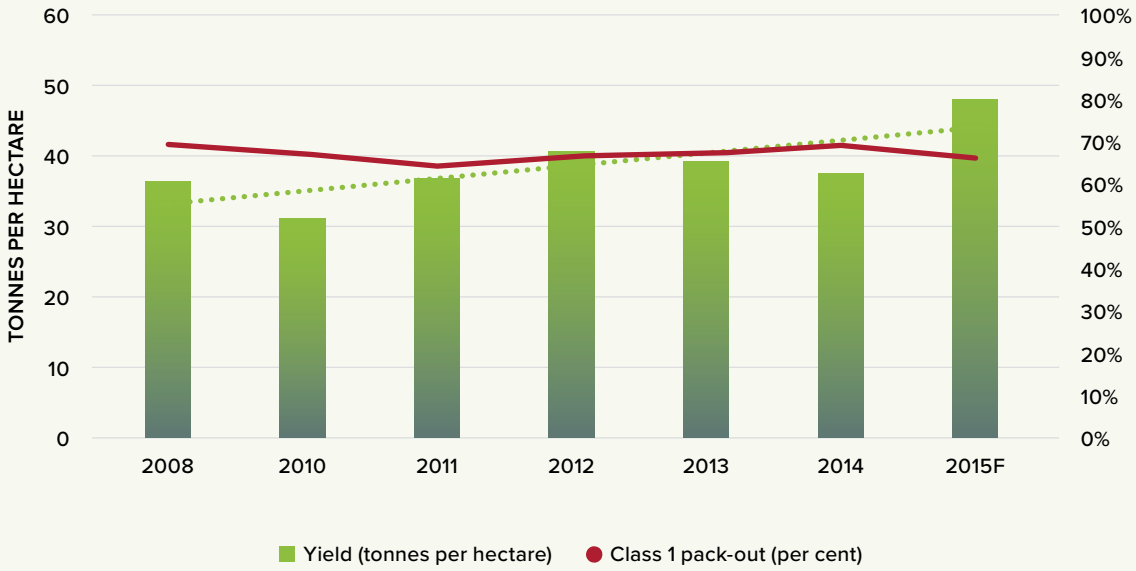
The APAL Australian National Crop Estimate records average apple yields at approximately 33 tonnes per hectare with flat growth over the past two seasons as illustrated in ***Figure 25***. However, the benchmarking study that was managed by APAL, in which 26 businesses participate, notes an average yield of 47.9 tonnes per hectare (study includes both apple and pear orchards) and a 28 per cent increase in the average yield over the last two seasons. The difference between the two studies illustrates the variability across the different orchards and businesses on yield. While measures can only be indicative due to the large number of variables, it is clear that more progressive businesses are outperforming the bottom quartile. The consultation indicated that best practice orchards are consistently achieving yields above 100 tonnes per hectare. The key drivers of yield are many, including:

- **Planting density**
- **Age of trees**
- **Variety**
- **Soil health**
- **Netting**
- **Pest and disease load**
- **Fertiliser management**
- **Water management**
- **Access to agronomic expertise**
- **Management skill**
- **Weather/climate change**
- **Pollination**
- **Crop protection.**

The key point on yield noted in the industry consultation is that many growers in the industry are performing well below average, which industry claims to reflect either an unwillingness to invest in new planting systems or poor growing skills. This has important implications for Australia's global competitiveness in export markets because of Australia's significant cost disadvantage.

Despite the variables, feedback in the industry consultation strongly suggested that there is a major opportunity to lift average yield performance in Australian orchards. It was noted by many in the consultation that Australia had a long way to go to perform at world's best practice at an industry average level.

Figure 26: Yield and Class pack-out (apples and pears)



Source: APAL website

Apple production profitability and costs

The results from the benchmarking study indicated highly variable profit scenarios across all 26 businesses who participated in the benchmark study.

The profitability issues and cost of production characteristics are similar for pears to those described for apples.

Costs per hectare have risen by 23 per cent since 2008.

Income is highly sensitive to pack-out rates and market pricing.

Market rates fall substantially in years of high production due to oversupply, which highlights the need to build export markets.

Pear volumes for canning and other traditional processing have been in long-term decline as these grocery categories have lost favour with consumers and suffer from import competition.

Pears are more susceptible to hail damage and the resulting lower crop returns do not justify investment in protection, therefore, the crop is higher risk.

Average cost of production for pears is around $64,000 per hectare and has increased by 23 per cent in seven years. Postharvest is the biggest cost area followed closely by labour.

Production cost per kilogram is around $1.30 but it is highly variable due to yield fluctuations.

Pear prices are highly sensitive to supply. The declining prices for Williams reflects the reduced processing volume intake.

The results from the benchmarking study indicated highly variable profit scenarios across all 26 businesses who participated in the benchmark study.

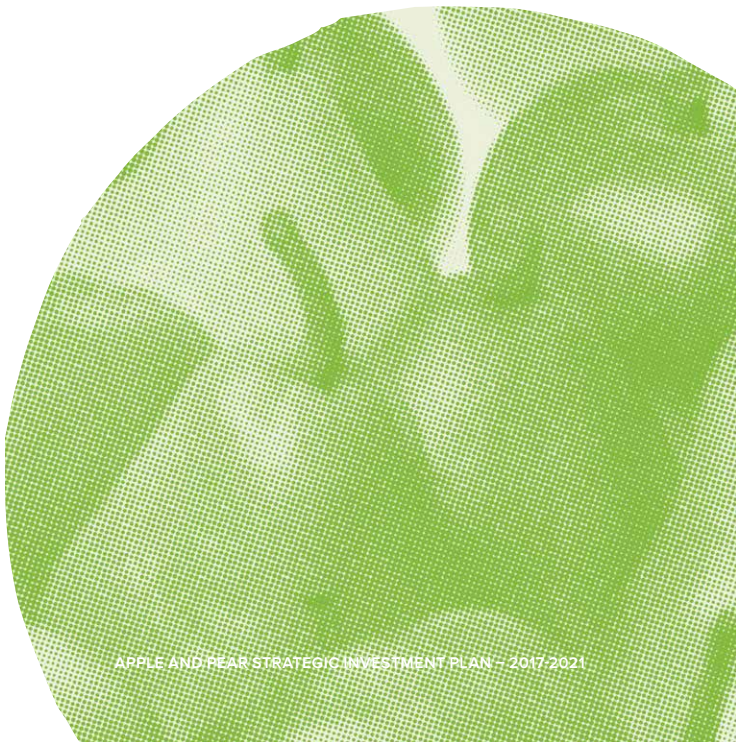
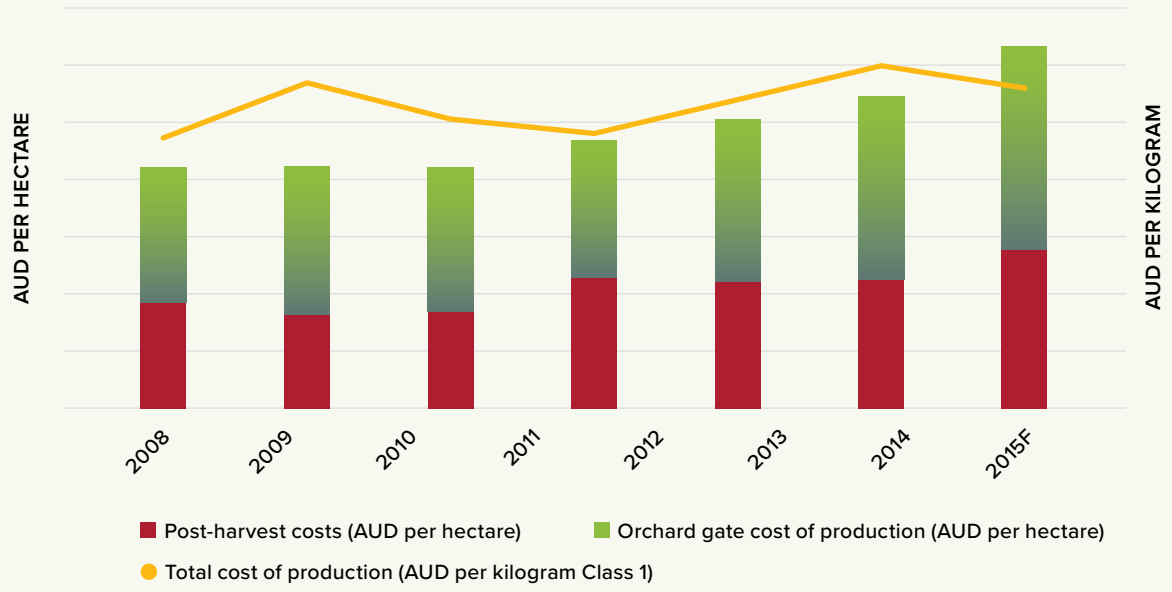
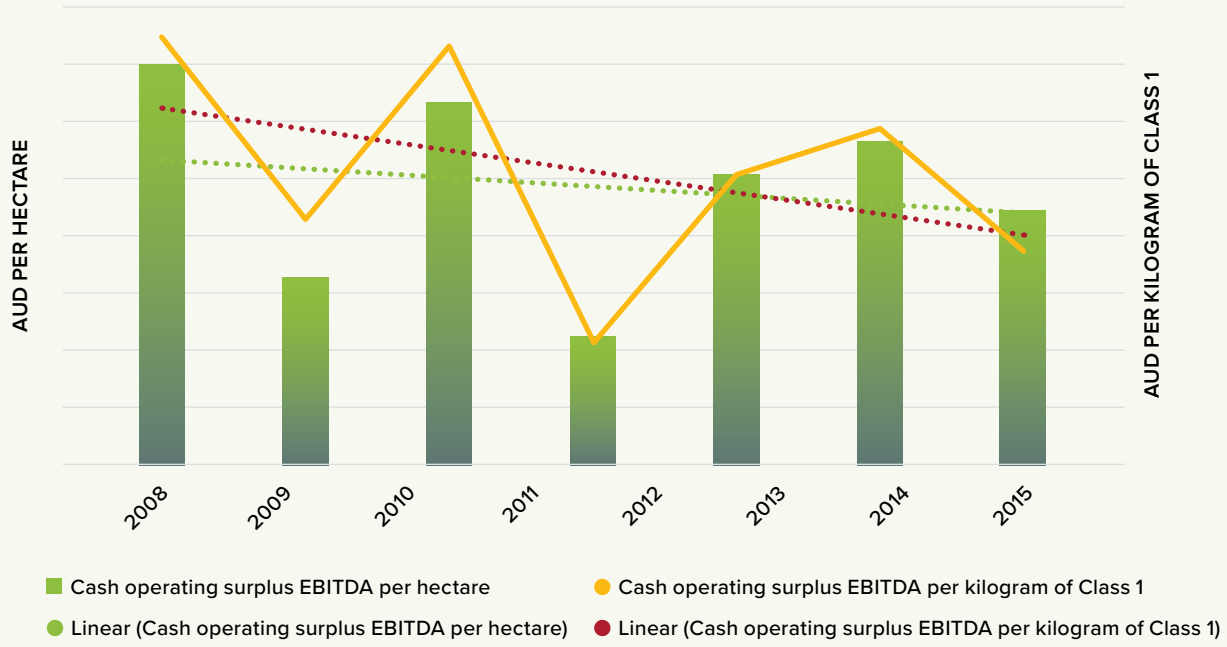


Figure 27: Cost of production benchmarking data



Source: APAL, 2015

Figure 28: EBITDA results from industry benchmarking study



Source: APAL, 2015

Environmental scan

The purpose of the environmental scan is to identify the external factors that could impact the industry in terms of both opportunities and risks.

The analysis is based on a PESTEL framework:

- Political
- Economic
- Social
- Technological
- Environmental
- Legal.

Political impacts

FACTOR	IMPLICATIONS	RISK/OPPORTUNITY
1. Domestic regulation		
Backpacker tax uncertainty	Potential impact on casual labour supply	*Loss of sufficient backpacker labour*
Review of horticulture award	Potentially increased penalty rates	*Higher fixed labour costs*
Food labelling	Nutrition or country of origin labelling mandated	*Potential to drive demand for Australian cider and juice made from local fruit rather than imported concentrates*
2. Global geopolitics		
South China Sea tension	Disruption to world trade resulting in displaced product exported to receptive markets	*Efforts to grow export trade may be thwarted* *Heightened threat of imports from New Zealand*
Brexit	Depreciation of UK pound	*Temporary loss of the United Kingdom market but in the longer term could open export opportunities as the pound softens and free trade agreements (FTAs) are a possibility*

Economic impacts

FACTOR	IMPLICATIONS	RISK/OPPORTUNITY
1. Domestic economy is delicately balanced		
High levels of household debt **Housing market bubble** **Economy not responding to low interest rates**	Potential for economic meltdown Loss of AAA credit rating Reduction in consumer spending Shift to lower value products	*High cost of borrowing* *Potential reduced consumer demand* *More price discounting* *Tightened credit* *Possibility of higher interest rates in the longer term*
2. Rising costs		
Rising costs of doing business	Difficult to pass on price increases in current environment	*Reduced profitability and viability of horticultural businesses*
3. US economy is recovering		
Employment rate rising	USD likely to appreciate	*AUD likely to depreciate further, improving Australia's export competitiveness*
GDP growth improving	Increased local demand	*Less exports*
Employment rate rising	USD likely to appreciate	*AUD likely to depreciate further, improving Australia's export competitiveness*
4. European economy is faltering		
Major economies in Europe delicately balanced	Further devaluation of Euro	*Depreciation of Euro against AUD will make Australia less competitive in Asian markets*
5. Food deflation		
Food prices have declined in real terms in most categories: » **Domestic over supply** » **Supermarket power**	Returns to agrifood companies at every level of the supply chain are not keeping up with costs, causing declining profitability	*Low performing businesses will become unprofitable and leave the industry*

6. Supermarket dynamic		
Dominance of Coles and Woolworths is under threat from Aldi, Costco and new entrants	Aggressive price war	*Increased downward pressure on selling prices*
Increasing trading terms	Trading terms for fresh food may rise as suppliers are forced to bring terms in line with other fast moving consumer goods (FMCG) suppliers	*Reduced margins for horticultural companies selling to supermarkets*
7. Concentration among global agribusiness supply/ technology companies		
Recent merger and acquisitions: » **Bayer and Monsanto** » **Dow and DuPont** » **China National Chem Corp and Syngenta**	Inputs and technology will become more expensive and availability more restricted	*Higher input costs* *Australia may get secondary access to latest technology* *Some chemicals may no longer be available or affordable*
8. Sea freight rationalisation		
Overcapacity in global sea freight has led to bankruptcy amongst shipping companies such as Hanjin	Rationalisation within the sea freight sector Increased shipping costs	*Exports freight costs may rise*

Social impacts

FACTOR	IMPLICATIONS	RISK/OPPORTUNITY
1. Social licence		
Changed community attitudes empowered by social media are demanding more accountability from corporate Australia	Greater accountability required in: • Food safety • Use of chemicals • Labour practices • Workplace safety • Food miles • Environmental sustainability	*Adverse social media reaction can be potentially extremely damaging*
2. Provenance		
Consumers are interested in where their food comes from: » **Where it was grown; who made it; and how** » **The story behind it**	Pressure for more detailed food labelling Pressure for increased whole-of-chain traceability Growth of organics	*Added cost and regulation burden* *Increased support for Australian grown* *Opportunity for regional branding*
3. Declining national health		
Australia is in the middle of a health epidemic: » **Obesity** » **Type 2 diabetes** » **Cardiovascular disease** » **Increased cancer rates**	Increasing pressure by governments to change lifestyle and eating habits because of the spiralling health costs	*Should help drive more consumption of fresh fruit and vegetables*
Growing concern around high sugar levels	Reduced consumption of processed snack foods Hi fructose levels in apples and pears could come under the spotlight	*On balance, will probably favour consumption of apples and pears*
Increased prevalence of 'free from' diets	Diets such as FODMAP are growing as the diagnosis of allergens improves	*Apples and pears are to be avoided on FODMAP diets*

Technological impacts

FACTOR	IMPLICATIONS	RISK/OPPORTUNITY
1. Emerging technologies		
Game changing technologies: » **Sensing** » **Big data** » **Robotics** » **Drones** » **Radio frequency identification (RFID)** » **Near infrared spectroscopy (NIR)** » **Smart packaging**	Will drive efficiency and speed of change	*Opportunity for Australia to improve its global competitiveness by reducing labour cost or increasing productivity and yield* *Failure to keep up with technology will increase import threat*
2. Disruptive technologies		
IT is allowing the entry of disruptive technologies: » **Smartphone connectivity** » **Direct-to-consumer and B2B**	Disruption to traditional business models Increased competition Regulators cannot keep up with the pace of change	*Increased competition* *Greater scrutiny and accountability*

Environmental impacts

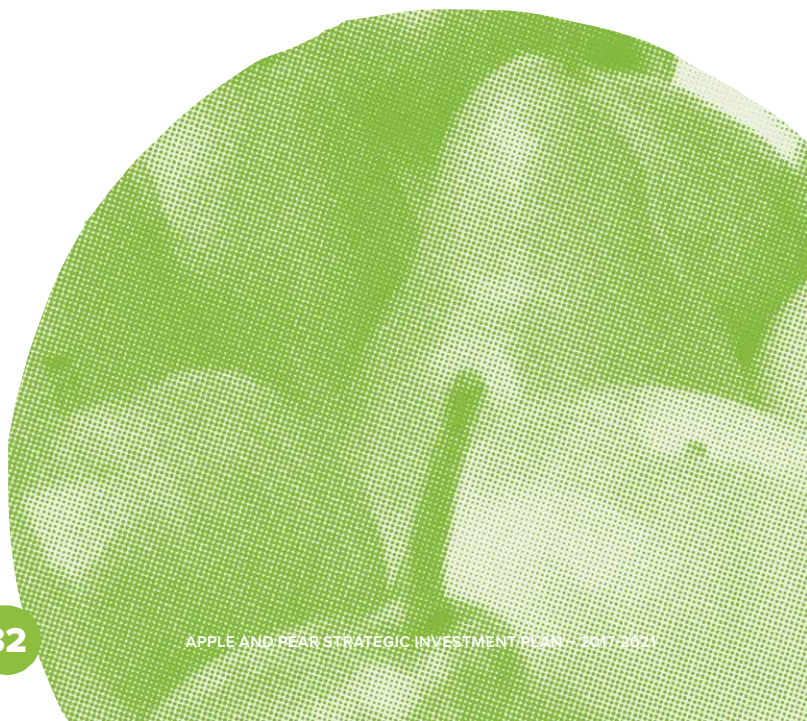
FACTOR	IMPLICATIONS	RISK/OPPORTUNITY
1. Climate change		
Less reliable rainfall **Hotter temperatures**	More reliance on irrigation Certain varieties will perform differently as regional climates change	*Higher cost* *Areas such as Goulburn Valley may need to change varieties* *Need for heat resistant varieties*
More extreme weather events	Changed pest and disease profile	*Enhanced pest, disease and biosecurity risks*
2. Water cost and availability		
Impacts of climate change: » **Less run-off** » **Environmental water buy-backs** » **Lowering of underground water table** » **Declining water quality** » **Stricter regulation from water authorities**	Restricted water availability Higher cost of water	*In some areas, permanent horticulture may become higher risk*

Legal impacts

FACTOR	IMPLICATIONS	RISK/OPPORTUNITY
1. Increased red tape		
Increased red tape and compliance burden: » **Increasing public pressure** » **Political correctness** » **Social accountability**	Increased cost of doing business	Threat to viability of marginal agribusinesses Reduces Australia's competitiveness
2. Food labeling regulations		
Tighter food labelling and consumer protection regulations	Stricter regulations and accountability on food labelling from government Food safety remains high focus area for retailers	*A food safety issue may be very damaging to short term sales*
3. Increasingly litigious society		
Rising legal costs and risk of brand damage	Supermarkets are increasingly cautious about legal issues arising from food safety	*Growers will wear the cost of supermarket concern about food safety with tighter quality assurance (QA) measures*

Operating environment

The apple and pear industry SWOT analysis	
Strengths	• The top quartile of growers is achieving world's best practice productivity levels • The large geographic spread of production areas and the associated microclimates enable Australian growers to produce great variety of a wide range of products, over a long seasonal window • Access to a range of varieties that can be customised to particular export markets. • Tasmanian market access to China • Strong consumer support for Australian apples and pears in the domestic market as evidenced in 'Hail storm heroes' and 'Aussie Apples' campaigns.
Weaknesses	• Higher input costs relative to competitors • Lower and more variable yield than competitors • Inconsistency in delivering good eating experiences • Lack of export competitiveness and capability • Lack of market access into potential markets • Under-representation in non-supermarket channels • Lack of reliable data on tree plantings and crop forecasts to inform investment decision-making.
Opportunities	• To take advantage of the world's best scientific knowledge in agronomy, packaging and pests and disease management • Promoting the specific health benefits of apples and pears to take advantage of the growing trend towards healthier foods • The growing demand for quality fruit in nearby Asian and Middle Eastern markets • The industry financial resources available to invest in market development.
Threats	• An oversupply depressing prices to uneconomic levels • Threat of biosecurity incursion • Appreciation of the Australian dollar, which will drive imports • Decreased consumption due to concern about sugar/fructose • Food safety incident and threat of litigation • Political incident in China Sea disrupts trade.



Strategic risk

The following strategic risks to industry have been identified, together with the required R&D response. The declining industry profitability was noted in the industry consultation as the most serious risk, requiring priority attention in this SIP.

Table 4: Strategic risks to industry

STRATEGIC RISK FACTOR	R&D RESPONSE
Decreasing consumption	• Effective marketing
Short- and long-term risks associated with climate change	• Improve farm management skills • Increased netting • Variety selection
Biosecurity incursion	• Monitoring program • Up-to-date industry response plan
Food safety incident	• Review industry response plan annually • Ensure HACCP certification implemented in all packing sheds
Declining industry profitability unprofitability	• Develop exports and value added markets
Appreciation of the Australian dollar	• Improve competiveness

Strategic situation summary

The following points summarise the situation highlighted through the previous stages of consultation and data analysis:

1. Production: Apple production has stabilised whilst pear production is in decline largely due to reduced demand from processors who forecast furth er reductions
2. Consumption: Apples are in decline and pears are flat
3. Grower returns: Have not kept pace with increased cost of production:
   a. Industry profitability is in decline (current trend is beyond normal cyclic conditions)
   b. Bottom quartile of producers is unprofitable (and the producers are potentially unaware of this)
4. Exports: At one per cent for apples and approximately 10 per cent for pears, exports have only marginally increased with the depreciation of the Australian dollar
5. Quality: Industry profitability is impacted by the fact that only 70 per cent of the total harvest offers great eating quality with the remainder heavily discounted or wasted[14]
6. Plantings: If the expected increases become a reality it will be essential to find new markets, notably exports.

Performance issues

The workshops with the apple and pear SIAP confirmed the following key performance issues facing industry, which therefore, need to be addressed in the SIP:

1. Declining profit margins
2. Declining consumption per capita
3. The likelihood of a pending supply increase over the next five years which could depress prices unless markets can be found
4. High labour costs
5. Cross industry variability in yield and quality
6. Low levels of exports and export competitiveness
7. Under representation in non-supermarket channels
8. Lack of consistency of eating experience for consumers
9. Poor returns on lower grades of fruit
10. Industry's lack of willingness and readiness to adopt new technology
11. Lack of data on plantings and supply forecasts
12. Poor industry engagement
13. Lack of necessary business skills to manage contemporary horticultural enterprises.

The following strategies in this SIAP have been proposed to respond to the above performance issues.

14 Feedback from consultation with Peak Industry Body

2

SECTION TWO

Apple and pear industry outcomes

Industry outcomes

The aim of this SIP is to create a sustainable, globally competitive apple and pear industry, which is profitable at every link of the supply chain. For reasons explained in the above analysis, the SIP focus is on rebuilding industry profitability by:

- Reducing per carton cost
- Developing new markets (which will increase the average return on all fruit produced)
- Building a culture of continuous improvement to ensure industry sustainability and global competitiveness.

It will be counterproductive to invest in projects that increase productivity unless there are parallel projects to build new markets or drive consumption (or lift replant rate in short-term).

OUTCOME 1

Industry profitability and global competitiveness is improved by reducing the average cost per carton

- Reduction of per carton cost will be critical to industry profitability and global competitiveness. Australia has a much higher cost than competitors, particularly New Zealand. New Zealand's cost base is lower in both growing and packing
- Orchard productivity, especially increasing yield and reducing input costs, still has potential to improve, despite gains made already. The Future Orchards® program is widely respected for its gains to date and could be extended for further benefit using other formats for greater reach. There is potential to extend it into the packing shed
- Reduction of labour costs will always remain important with Australia's high cost structure. Industry personnel skills (supervision, people management and leadership) are acknowledged as being relatively poor and contributing to the high cost of labour. Research and development aspects of labour management that need focus are:
  - **Improving productivity through increased automation**
  - **Professional development to Improve labour-management practices**
  - **Packing costs reduction through improved labour productivity and adoption of new processing technologies.**
- Although awareness is low, the Productivity, Irrigation, Pests and Soils (PIPS) program is considered good in principle but additional effort is required to communicate the science in a practical format that can be applied by growers
- It is critical to continue efforts to manage pest and disease challenges, which differ from region to region. An ongoing prioritised and targeted program must continue with the aim of cost effective monitoring and control
- Soil health and improved understanding of beneficial microbes could make a major difference to yield and reducing chemical inputs as well as preventing replanting losses
- Pack house consolidation would be desirable because of the overcapacity and its impact on cost. Improving industry financial management skills will foster a greater understanding of the need for new business models to facilitate getting greater volume through fewer pack houses to improve economies of scale.

OUTCOME 1 (continued)

Industry profitability and global competitiveness is improved by reducing the average cost per carton

- Opportunities for pack house improvement would cross over both cost reduction and quality improvement. There is scope to improve industry skills in pack house personnel management, refrigeration, storage technique for specific varieties, new treatments, impact of shift to no wax, inventory management, etc.
- There is a particular opportunity to improve the monitoring of costs by improving data flows at every level of the supply chain through seamless IT that allows data transfer and improves product traceability
- Orchard reworking is a high capital cost and many in the industry are unwilling or unaware of alternative financing models that may help to transition to more efficient and productive orchards.

OUTCOME 2

Growing demand in both domestic and export markets has increased the value of the marketable harvest

- Industry has strongly stated the need to improve selling prices. Given the current oversupply situation, this can only be achieved by growing demand for all grades of marketable fruit, through all channels. The alternative is reducing supply, which is not palatable to industry
- Growing domestic demand by driving increases in both the volume and frequency of purchase i.e. making purchase of a variety of apples a weekly event, may assist in addressing freshness and better eating quality. The market research indicates relatively high levels of household penetration and purchase frequency, suggesting the best opportunity is to increase quantity per purchase
- Because the largest channel to market is retail, there is a need to build demand through increased consumer engagement in collaboration with retailers. The analysis highlighted the importance of partnering with supermarkets to improve the category management of apples and pears, with urgent attention to scanning inaccuracy necessary
- The research shows that apples are predominantly consumed as a lunchbox staple or snack. The route trade such as cafés, petrol stations, convenience stores and sporting and entertainment venues is the traditional channel for snack foods. Hort Innovation marketing presentations to industry indicated that apple and pears are under-represented locally[15]
- Apples and pears need to be presented in a format appropriate to convenience outlets such as product form, packaging and logistics
- The foodservice channel (away-from-home consumption) accounts for 33 per cent of the value of food consumed in Australia[16] (it is a higher proportion of the volume when institutional catering is factored). Apples and pears appear under-represented in this channel so therefore, R&D is required to validate this and identify opportunities to increase the usage of apples and pears (both fresh and value-added) through food service outlets
- Export growth will be even more critical given the orchard reworking that is occurring and commensurate yield increases expected. Export marketing will be required to prevent the local market prices being depressed by growing over supply. Work is needed to identify the best prospect export markets for Australian apples and pears. The export strategy will need to consider:
  - **Market access**
  - **Improving global competitiveness**
  - **Rebuilding export capabilities, skill sets and culture**
  - **Biosecurity**
  - **MRL issues**
  - **Reducing costs in the export supply chain**
  - **Developing varieties for Asian consumers**
  - **Resetting supply chains to ensure optimum quality and customer service levels**
  - **Developing the value proposition for Australian pome fruit**
  - **Fostering international marketing, branding and distribution networks to form global strategic alliances.**
- The biosecurity efforts must continue to protect industry from major threats and support market access.

15 Hort Innovation industry presentation, APAL conference, 2016
16 Understanding Food Service, Food Service Suppliers Association of Australia, 2015.

OUTCOME 3

The value of the average bin has risen, resulting in improved industry profitability

- The cost of production is increasing at a much faster rate than selling prices, eroding industry profitability. As well as cost control, strategic focus is required on increasing value
- Selling first-grade fruit at a higher price will make most impact on returns. This requires a strong value proposition to convince consumers to pay more. The opportunity exists to de-commoditise apples especially, by highlighting the eating differences, provenance and fitness-for-purpose (as per wine)
- Club varieties are increasing product value to some extent, commanding premium pricing, because of a discernible point of difference. Potentially, the ability to license Pink Lady in the Australian market could provide an opportunity to leverage value across the third of the harvest that it represents
- Industry research also indicates that a major barrier to increased consumption is satisfaction in the eating experience. There is a need to better understand the factors impacting eating quality through the entire supply chain and identify opportunities for improvement
- Around 70 per cent of apples and pears are of consumer quality. Lower grade fruit is mostly sold at heavily discounted prices, relative to the cost of production. This fruit is going to juice and cider markets that are enjoying strong growth. There is also much fruit that goes straight to waste or cattle fodder. There is an opportunity to adopt new food processing technologies to convert this fruit to convenience products and snack foods that extract higher value. These technologies could be applied to pome fruit through better connection with the food technology community
- The growth in cider/perry consumption presents an unrealised opportunity. Replacing the 85 per cent of imported concentrate with local juice could lift Australian apple consumption by 10 per cent according to Cider Australia. But more food science knowledge is needed to develop capability in this new industry, particularly in juice and concentrate manufacturing, for example, research into sulphur dioxide use. A marketing program is also required to raise awareness that a large amount of cider marketed as 'Australian' is actually created from Chinese sourced concentrate
- There is also an opportunity to utilise waste streams such as pomace from juice and non-consumable quality fruit through uses such as stock feed, bio-digestion for energy and neutraceuticals.

OUTCOME 4

A cultural shift across industry has better equipped growers for long-term sustainability

- If the industry is to remain globally competitive it is essential that it pursues a culture of continuous improvement
- Having good access to information is critical to successful decision-making. The industry is constrained by the fact that it does not fully understand current and future plantings, varieties, yields and so on. A reliable tree census would make a large contribution to industry decision-making (notwithstanding the challenges involved)
- Benchmarking is also a powerful tool to lift industry performance. Attempts made at this in the past have been lacklustre because of lack of industry participation. Benchmarking is too important to ignore and it justifies an attempt at re-establishing an industry wide scheme or alternatively, more local and informal business improvement groups
- One of the most powerful ways to drive a culture of continuous improvement is for progressive thinkers in the next generation of leaders to view best practice overseas. Annual scholarships for overseas study tours are recommended
- With the growing complexity of apple and pear production, packaging and marketing, it is essential that businesses have strong financial capability and understand the costs, risks and return on capital required. Although there are many financial management courses available, none are customised to orchard enterprises. This could be cross-funded with other temperate fruit levies
- Scholarships to participate in existing agribusiness executive development programs would make a difference to the next generation of managers in both family and corporate businesses
- Industry engagement has identified the need for skill development for middle management in both orchard and packing enterprises. Many have built their career from within the business, therefore, lack formal training or the learnings that happen in a diverse career journey such as people management, financial management and leadership. A short course dedicated to skill development and training among middle management would make a large contribution to industry performance and provide career opportunities for talented staff and family members
- With an industry that is highly reliant on labour from backpackers and other foreign workers, cultural skills may contribute to improved productivity of staff and contractors. In the United States, the study of Spanish is compulsory for students in some horticultural degrees, and whilst it is not proposed to go to that extent, some industry training in cultural communication skills or tools, such as induction materials with pictorial diagrams, could bolster productivity. There may be cost savings to industry in developing a virtual tool box of cross-cultural induction materials.

SECTION THREE

3

Apple and pear industry priorities

Industry investment priorities

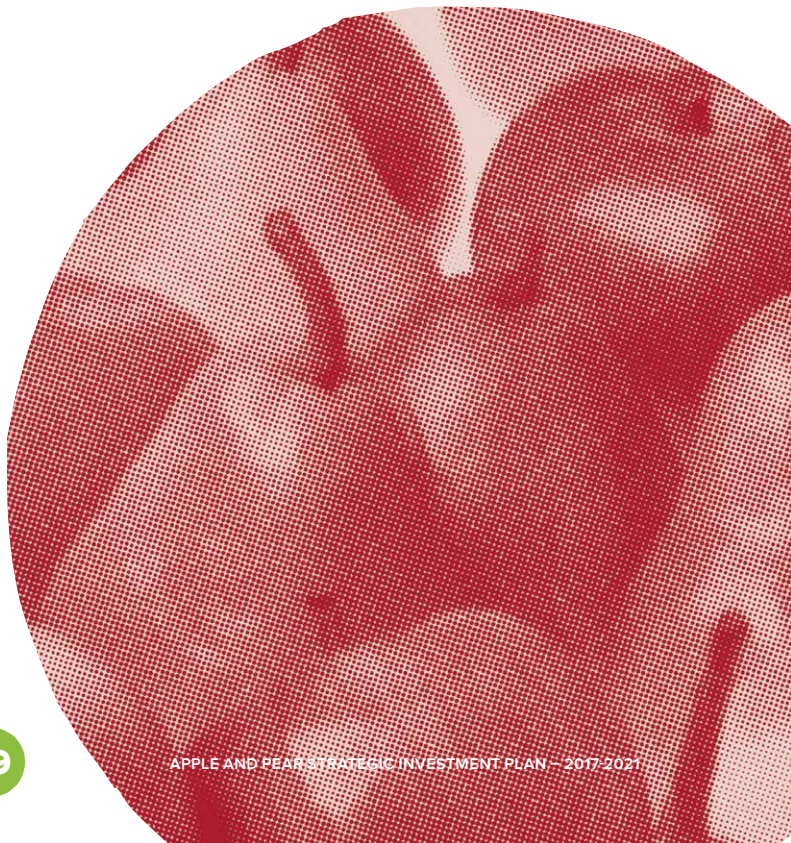
In this SIP, the Australian apple and pear industry aspires to create a profitable industry by driving value growth, reducing costs and equipping industry to re-enter Asia's growing export markets. The main objective of this SIP is to provide a roadmap that helps guide Hort Innovation's oversight and management of the industry R&D levy program towards the above aims. The ability to deliver on all the articulated strategies (and investments) in an impactful manner will be determined by the ability of the statutory levy to provide the resources to do so.

OUTCOME 1 – Industry profitability and global competitiveness is improved by reducing the average cost per carton	
STRATEGIES	**POSSIBLE DELIVERABLES**
1.1 Drive orchard reworking with emphasis on preparedness for increased mechanisation/automation/scale	1. Industry communications messages delivered on mechanisation/automation and economies of scale
1.2 Continue to build the body of knowledge around pest and disease management and prevention, considering both biosecurity risk mitigation and cost reduction	2. Productivity, Irrigation, Pests and Soils (PIPS) communication on cost effective pest and disease controls
1.3 Improve soil health and increase knowledge of beneficial microbes in orchard management	3. Soil health module delivered in Future Orchards®
1.4 Improve labour productivity through greater adoption of technology and leadership training (see Outcome 4)	4. Industry project on leveraging data collection and management in highly mechanised orchards
1.5 Research IT and data systems that enable better collection and connectivity of orchard and business data at every level of the supply chain	5. Future Orchards® program extended to pack house
1.6 Extend Future Orchards® concept to 'Future Pack House' with the aims of both cost reduction and quality improvement	

OUTCOME 2 – Growing demand in both domestic and export markets has increased the value of the marketable harvest	
STRATEGIES	**POSSIBLE DELIVERABLES**
2.1 Develop a marketing plan to drive category growth and engage domestic consumers	1. Hort Innovation marketing plan 2. Category management plan 3. Export market development plan
2.2 Improve consumer eating experience by better understanding consumer needs (market research) and developing industry responses to the factors impacting quality in every part of the supply chain	
2.3 Engage with supermarkets to improve category management and the shopper experience	
2.4 Grow non-supermarket channels, particularly the under-represented route and food service channels	
2.5 Build export competitiveness and capability across the industry	
2.6 Develop targeted export market development plan covering: market research, market access management, global strategic alliances and biosecurity planning	

OUTCOME 3 – The value of the average bin has risen, resulting in improved industry profitability	
STRATEGIES	**POSSIBLE DELIVERABLES**
3.1 Improve quality consistency and percentage of Class 1 fruit per hectare	1. Fruit quality a focus of Future Orchards® program 2. Food technology project on new value-adding ideas 3. Project on improving processes and quality of juice 4. Public relations program on use of concentrates in cider/perry 5. Marketing capability-building project 6. Industry communication on supply chain mechanics that explains how to extract maximum value for each business type
3.2 Develop opportunities for utilising second grade fruit and waste streams through value-adding and new product development	
3.3 Improve industry knowledge and capability in juicing (for fermented and fresh juice markets)	
3.4 Raise consumer awareness of the widespread use of imported concentrates	
3.5 Increase industry knowledge of marketing as a means of adding to product value	
3.6 Improve industry understanding of how contemporary supply chains function (from farm-gate to plate) to help growers maximise value	

OUTCOME 4 – A cultural shift across industry has better equipped growers for long-term sustainability	
STRATEGIES	**POSSIBLE DELIVERABLES**
4.1 Improve grower business skills through offering a business basics program (financial, leadership, strategic planning, succession plans, marketing, supply chain and the like)	1. Business basics program 2. Annual forecasting process implemented 3. Graduate scholarship program 4. Business model development exercise 5. Industry communications promote levy activity 6. Overseas study tours 7. Human resources skills short course for supervisors 8. HACCP training 9. Risk mitigation strategy
4.2 Investigate feasibility of tree register and annual production forecasting process for both biosecurity and investment planning purposes	
4.3 Support scholarships for agribusiness graduate management short courses, such as Hort Innovation Global Masterclass and Rabobank Executive program	
4.4 Assist industry to develop new business models that encourage investment, succession and economic sustainability	
4.5 Foster better industry participation in future levy funded projects in partnership with APAL (particularly free benchmarking and Future Orchards®)	
4.6 Include overseas study tours in young leader's program	
4.7 Introduce short course training modules for supervisors in human resources, leadership, team building and cultural skills	
4.8 Protect the industry's reputation for safe foods by ensuring industry systems, processes and training are up-to-date and compliant with best practice food handling standards	



Aligning to Hort Innovation investment priorities

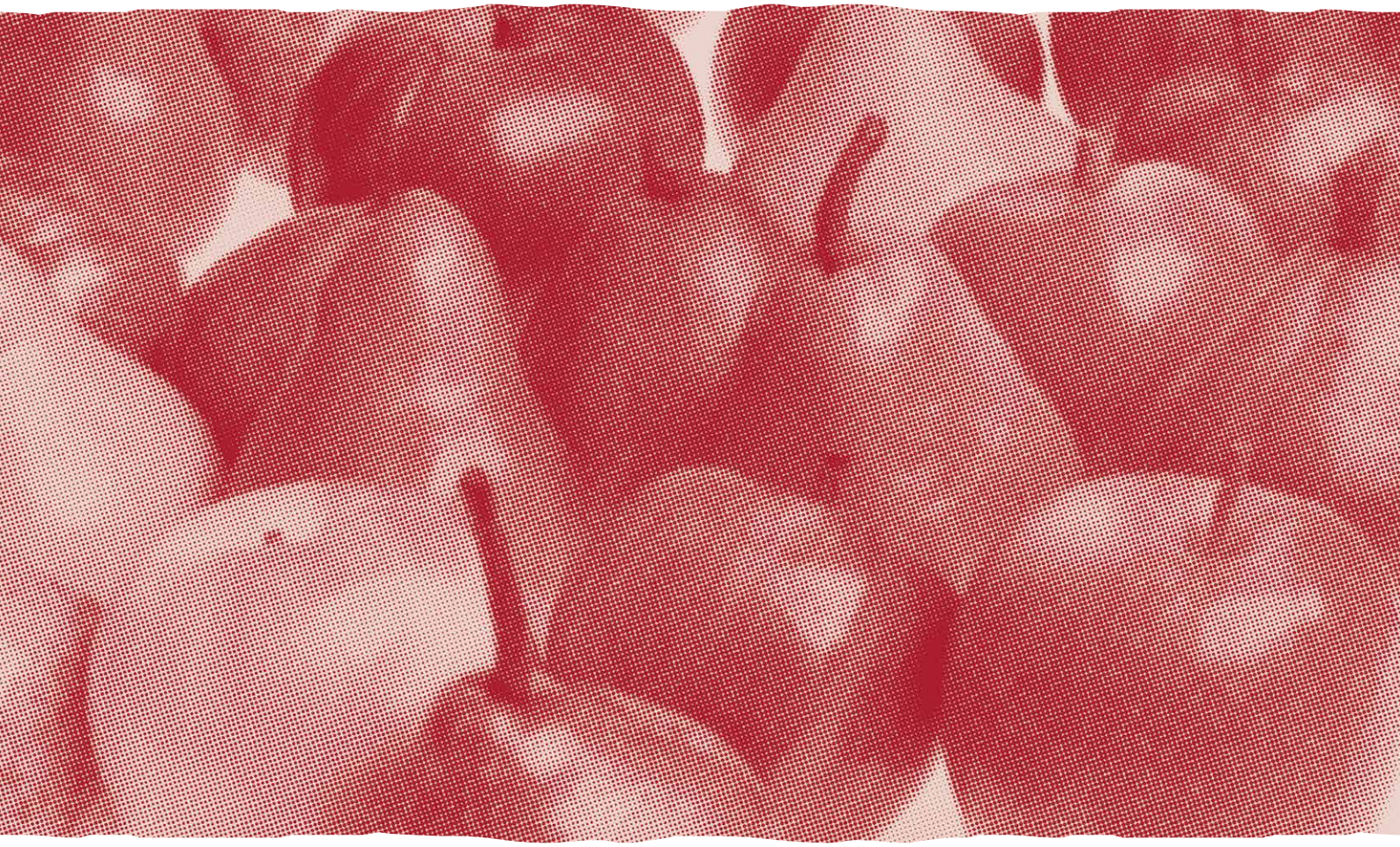
In establishing investment priorities, Hort Innovation analysed both historical and current levy and co-investment portfolios and priorities. From this analysis, we identified 11 cross-sectoral investment themes. We consolidated these themes further and considered their alignment with the Australian Government's Rural RD&E Priorities and National Science and Research Priorities, to arrive at five investment priorities outlined in ***Figure 29***. ***Figure 29*** also shows how each cross-sectoral investment theme relates to the five investment priorities.

Figure 29: Hort Innovation's investment priorities

The alignment of the apple and pear SIP outcomes to the Hort Innovation investment priorities, and consequently, the Australian government's Rural RD&E Priorities and National Science and Research Priorities is shown in ***Table 5***.

Table 5: Alignment of apple and pear SIP outcomes to the Hort Innovation investment priorities

Hort Innovation investment priorities	Apple and pear SIP outcomes
Support Industry efficiency and sustainability	**Outcome 1:** Industry profitability and global competitiveness is improved by reducing the average cost per carton **Outcome 3:** The value of the average bin has risen, resulting in improved industry profitability
Improve productivity of the supply chain	**Outcome 1:** Industry profitability and global competitiveness is improved by reducing the average cost per carton **Outcome 3:** The value of the average bin has risen, resulting in improved industry profitability
Grow the horticulture value chain capacity	**Outcome 4:** A cultural shift across industry has better equipped growers for long-term sustainability
Drive long-term domestic and export growth	**Outcome 2:** Growing demand in both domestic and export markets has increased the value of the marketable harvest
Lead strategically to enhance the development of the Australian horticulture industry through operational excellence	Enabler



4

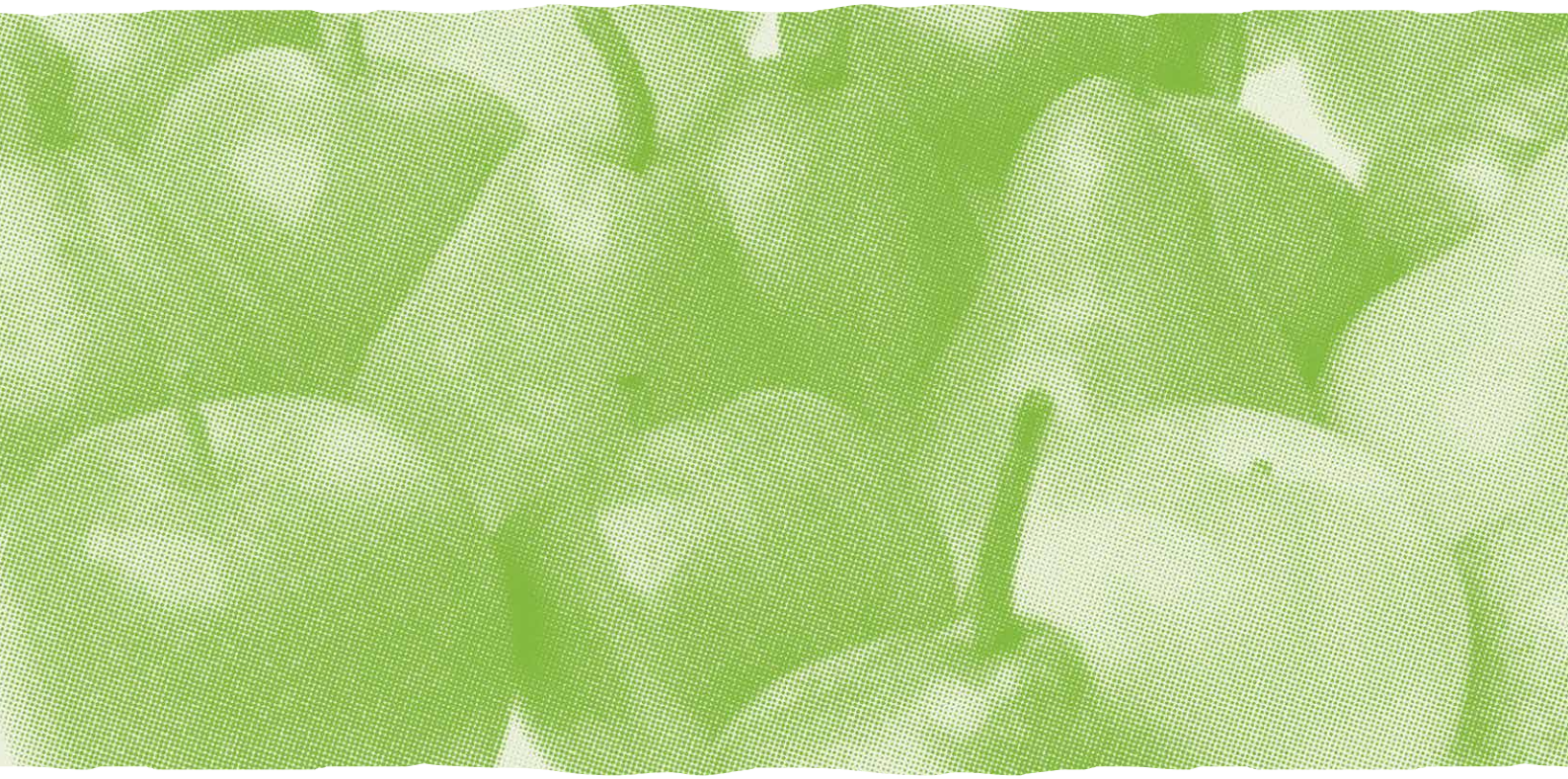
SECTION FOUR

Apple and pear industry monitoring and evaluation

Apple and pear SIP monitoring, evaluation and reporting

A SIP program logic and monitoring and evaluation (M&E) plan has been developed for the apple and pear 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.

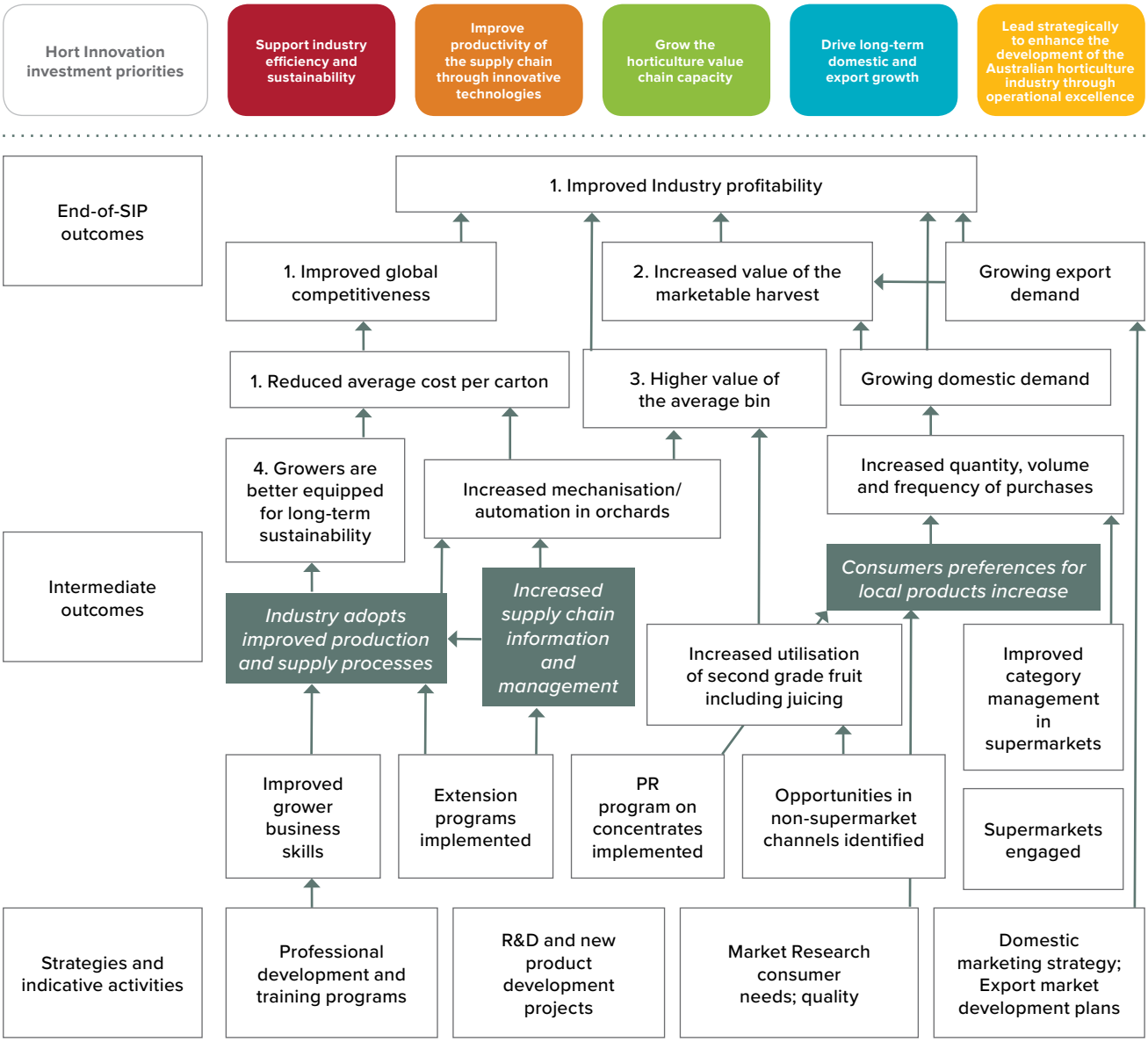
The SIP outcomes and strategies will be used to inform investments in individual projects to deliver on the SIP. The results of M&E will be used to reflect on the results of investments and in decision-making. Hort Innovation will facilitate the regular review of SIPs to ensure they remain relevant to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



Apple and pear SIP logic

An indicative apple and pear SIP program logic is shown in ***Figure 30***. The logic is based on the Hort Innovation SIP logic hierarchy (***Appendix 5***). The shaded boxes are not fully explicit in the SIP but necessary conditions for the achievement of expected outcomes.

Figure 30: Apple and pear SIP logic



Apple and pear SIP M&E plan

The apple and pear M&E plan is shown in ***Table 6***. 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 6: Monitoring and evaluation plan for the apple and pear SIP

Outcomes	Strategies	KPIs	Data collection methods and sources
OUTCOME 1: Industry profitability and global competitiveness is improved by reducing the average cost per carton	1.1 Drive orchard reworking with emphasis on preparedness for increased mechanisation/automation/scale 1.2 Continue to build the body of knowledge around pest and disease management and prevention, considering both biosecurity risk mitigation and cost reduction 1.3 Improve soil health and increase knowledge of beneficial microbes in orchard management 1.4 Improve labour productivity through greater adoption of technology and leadership training (see Outcome 4) 1.5 Research IT and data systems that enable better collection and connectivity of orchard and business data at every level of the supply chain 1.6 Extend Future Orchards® concept to 'Future Pack House' with the aims of both cost reduction and quality improvement	1. A target average orchard rework rate of five per cent per year 2. An increase in national average yield with a target of 10 tonnes per hectare by 2021 3. A reduction in per carton total cost with a target of a 10 per cent reduction 4. Biosecurity management plan is updated annually 5. Evidence of attendance at leadership training 6. Evidence of increased mechanisation/automation	Industry benchmarking data Training event feedback surveys Project records
OUTCOME 2: Growing demand in both domestic and export markets has increased the value of the marketable harvest	2.1 Develop a marketing plan to drive category growth and engage domestic consumers 2.2 Improve consumer eating experience by better understanding consumer needs (market research) and developing industry responses to the factors impacting quality in every part of the supply chain 2.3 Engage with supermarkets to improve category management and the shopper experience 2.4 Grow non-supermarket channels, particularly the under-represented route and food service channels 2.5 Build export competitiveness and capability across the industry 2.6 Develop targeted export market development plan covering: market research, market access management, global strategic alliances and biosecurity planning	1. Evidence that the marketing strategy has been developed and implemented 2. Category management plans are in place with key supermarkets by end 2017 3. Data is available on alternative channels to supermarkets 4. Evidence of growth in export competitiveness and capability with a target of five per cent of marketable production being exported by 2021 5. Export market development plans completed in 2017	ABS, GTA, consumer behaviour and retail data Feedback from supermarkets on category management plans Project records

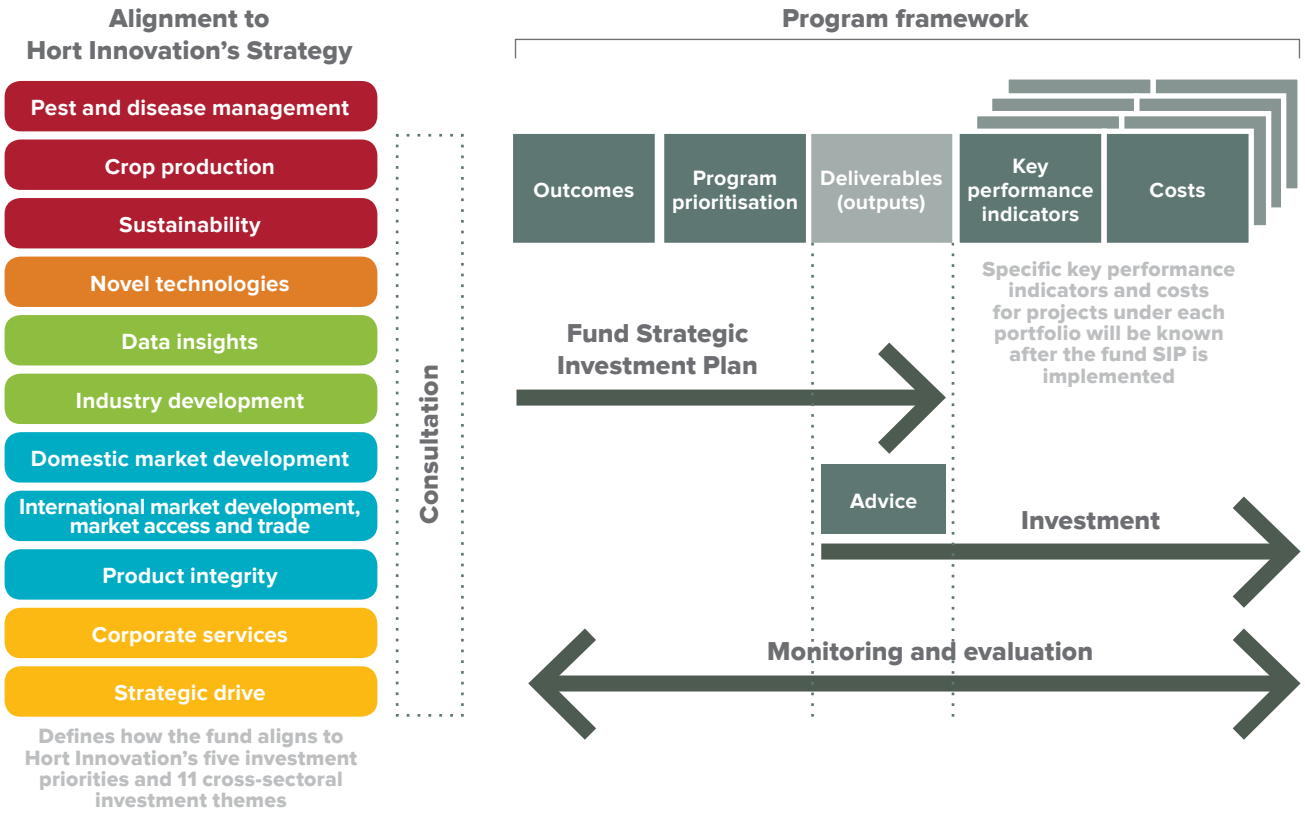
Outcomes	Strategies	KPIs	Data collection methods and sources
OUTCOME 3: The value of the average bin has risen, resulting in improved industry profitability	3.1 Improve quality consistency and percentage of Class 1 fruit per hectare 3.2 Develop opportunities for utilising second grade fruit and waste streams through value-adding and new product development 3.3 Improve industry knowledge and capability in juicing (for fermented and fresh juice markets) 3.4 Raise consumer awareness of the widespread use of imported concentrates 3.5 Increase industry knowledge of marketing as a means of adding to product value 3.6 Improve industry understanding of how contemporary supply chains function (from farm-gate to plate) to help growers maximise value	1. An increase in the average per cent of Class 1 fruit per hectare 2. An increase in average bin returns with a target of 10 per cent 3. Evidence of consumer awareness of the widespread use of imported concentrates 4. Evidence of adoption of new industry business models	Project records Industry benchmarking data Grower surveys Consumer perception data
OUTCOME 4: A cultural shift across industry has better equipped growers for long-term sustainability	4.1 Improve grower business skills through offering a business basics program (financial, leadership, strategic planning, succession plans, marketing, supply chain 4.2 Investigate feasibility of tree register and annual production forecasting process for both biosecurity and investment planning purposes 4.3 Support scholarships for agribusiness graduate management short courses such as Hort Innovation Global Masterclass and Rabobank Exec program 4.4 Assist industry to develop new business models that encourage investment, succession and economic sustainability 4.5 Foster better industry participation in future levy funded projects in partnership with APAL (particularly free benchmarking and Future Orchards®) 4.6 Include overseas study tours in young leader's program 4.7 Introduce short course training modules for supervisors in human resources, leadership, team building and cultural skills 4.8 Protect the industry's reputation for safe foods by ensuring industry systems, processes and training are up-to-date and compliant with best practice food handling standards	1. Over 50 per cent of industry have participated in benchmarking or business skills programs by 2021 2. Forecasting process in place by end 2017 3. Delivery of all recommended leadership/ training programs by 2021 4. Zero food safety incidents recorded	Project records Industry benchmarking data Forecast data Leadership/ training program participation rates and feedback survey

Reporting

The program framework in ***Figure 31*** 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 31: Hort Innovation's program framework

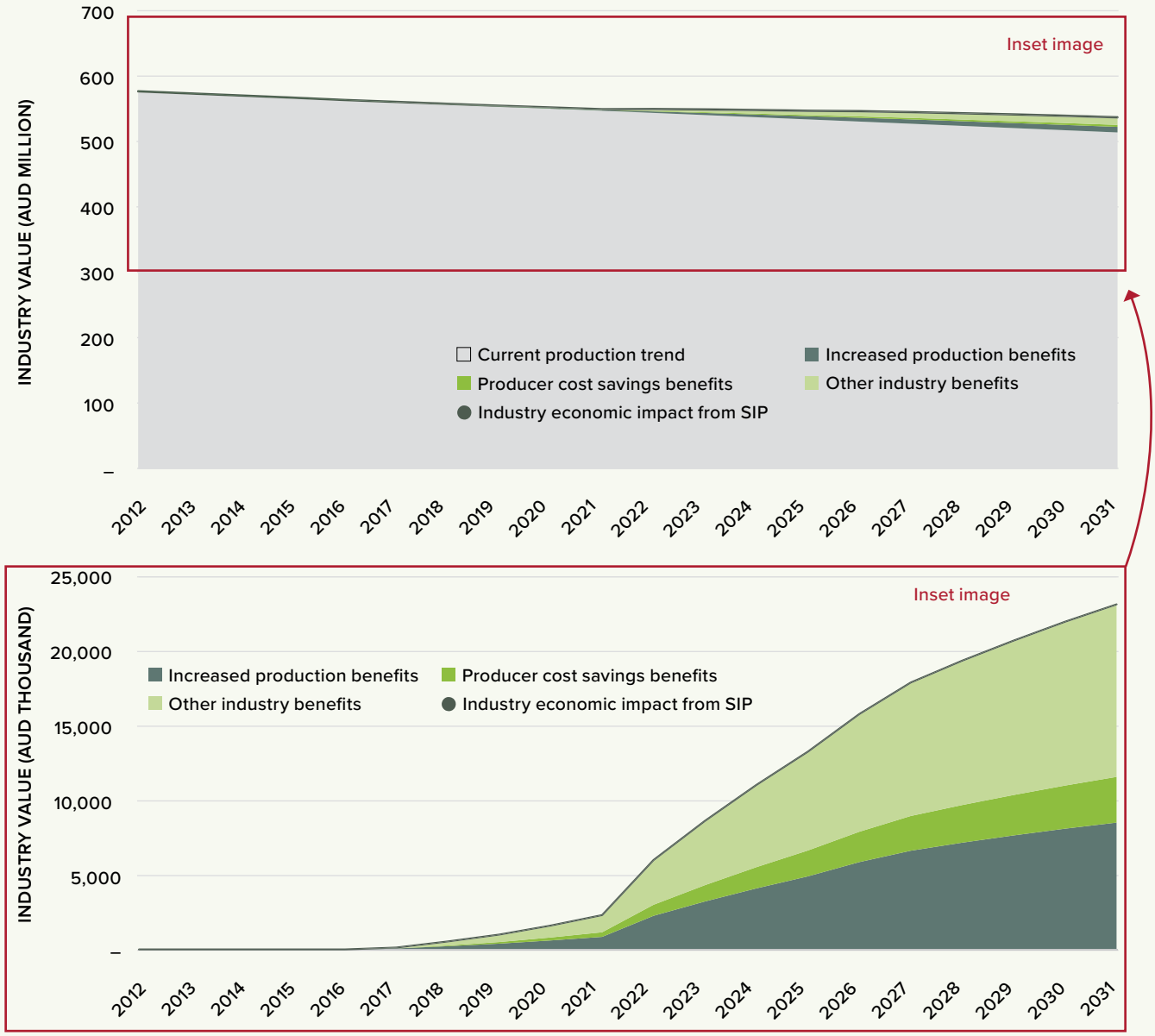


SECTION FIVE

5

Impact assessment

Figure 32: Economic benefit from investment in the SIP



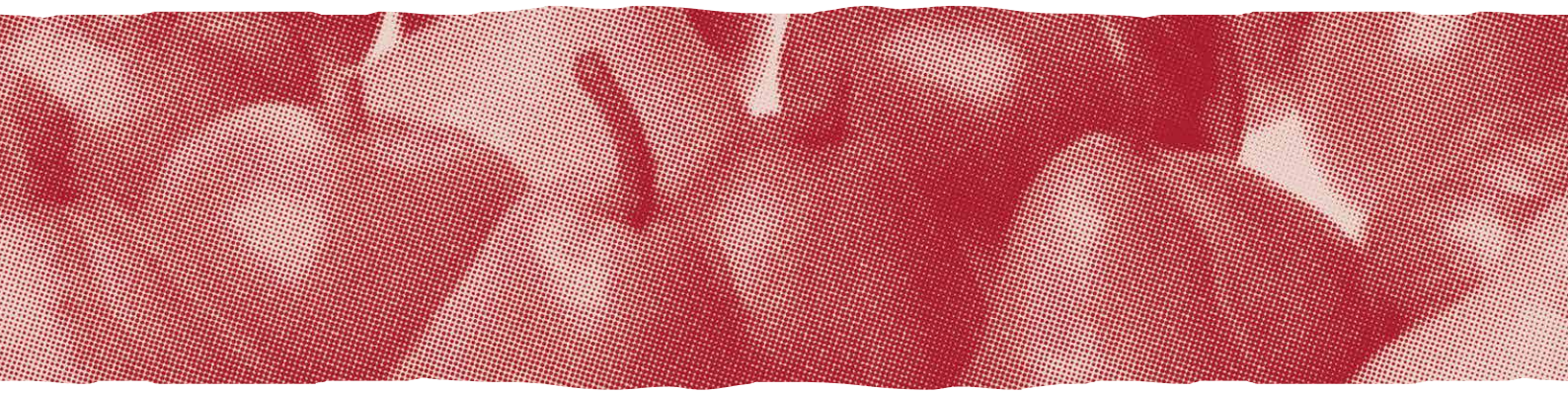
An independent assessment of the potential economic impacts from investment into the apple and pear SIP indicated a positive return on investment for the industry (***Figure 32***). The anticipated investment of $32.23 million over the next five years in R&D, extension and marketing activities is expected to generate $163.40 million in net benefits for the industry, representing a benefit cost ratio of 5.07 times to growers and service providers along the value chain.

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 7 provides a summary of the assessed impacts for each outcome identified in the SIP, the anticipated deliverables, net economic benefits and benefit cost ratio.

Table 7: Summary SIP logic outcomes and associated impacts

Outcome	Expected deliverables	Anticipated SIP investment (over five years)	Net benefits (over 15 years)	Benefit cost ratio
Industry profitability and global competitiveness	• Communications on mechanisation • Cost effective pest and disease control • Soil health module in Future Orchards® • Data collection and management in highly mechanised orchards	$8,057,312	$40,048,517	4.97
Growth in both the domestic and export markets	• Tree register • Annual forecasting process • Hort Innovation marketing plans • Export market development plans for apple and pears	$8,057,312	$48,704,978	6.04
Improvement in industry productivity	• Food technology project on new value-adding ideas • Project on improving processes and quality of juice • PR program on use of concentrates in cider/ perry • Marketing capability building project • Training program on supply chains	$8,057,312	$34,486,931	4.28
Growers equipped for long-term sustainability	• Business basics program • Graduate scholarship program • Business model development exercise • Industry communications • Overseas study tours • Human resources skills short course	$8,057,312	$40,164,521	4.98



The quantified impacts associated with Outcome 1 include:

- A reduction in per carton cost from better communication and higher utilisation of mechanisation and automation on apple and pear farms
- A reduction in crop losses and increases in yield from greater availability of cost effective pest and disease solutions for growers
- Increases in yield and reductions in fertiliser use from improved understanding, greater awareness and management of soil health by growers
- Price premiums, reductions in production costs and wastage from improved data collection and management and consequently better decision making across the supply chain.

The quantified impacts from Outcome 2 include:

- Market expansion from improved market access and reduction in biosecurity impacts due to greater capacity for industry to identify and management biosecurity threats.
- Market expansion and price premiums from better industry forecasting processes and greater capacity for growers to align their production to market needs
- Market expansion from better alignment to consumer needs and access to non-traditional markets such as the food service sector through targeted marketing campaigns
- Market expansion for apples into export markets such as Papua New Guinea, United Kingdom, Indonesia, Singapore and China through the implementation of a targeted export development plan
- Market expansion for pears into export markets such as New Zealand, Indonesia, Canada, New Caledonia and Hong Kong through the implementation of targeted a export development plan.

The quantified impacts from Outcome 3 include:

- Market expansion and diversification from the introduction of new value added products makes use of the products which would have otherwise gone to waste or low value uses
- Market expansion from increased use of local apple and pear juice concentrates in cider and perry through improvements in industry juicing capabilities and a public relations program
- Price premiums from improved product marketing for apples and pears by building industry knowledge of marketing
- Price premiums and reductions of wastage by increasing the quality of produce across the supply chain and improving consumer consumption experience.

The quantified impacts from Outcome 4 include:

- Market expansion, price premiums and reductions in production costs from improvements in grower business skills and knowledge of overseas production processes
- Human capital improvement from upskilling the workforce through a graduate scholarship program for the industry
- Market expansion and economic sustainability for the industry from improved business models and operations that encourage investment and succession
- Increased industry participation in levy funded projects and adoption of research outcomes through higher levels of industry communications
- Greater staff productivity from improvements in human resource management through a skills short course program for industry.

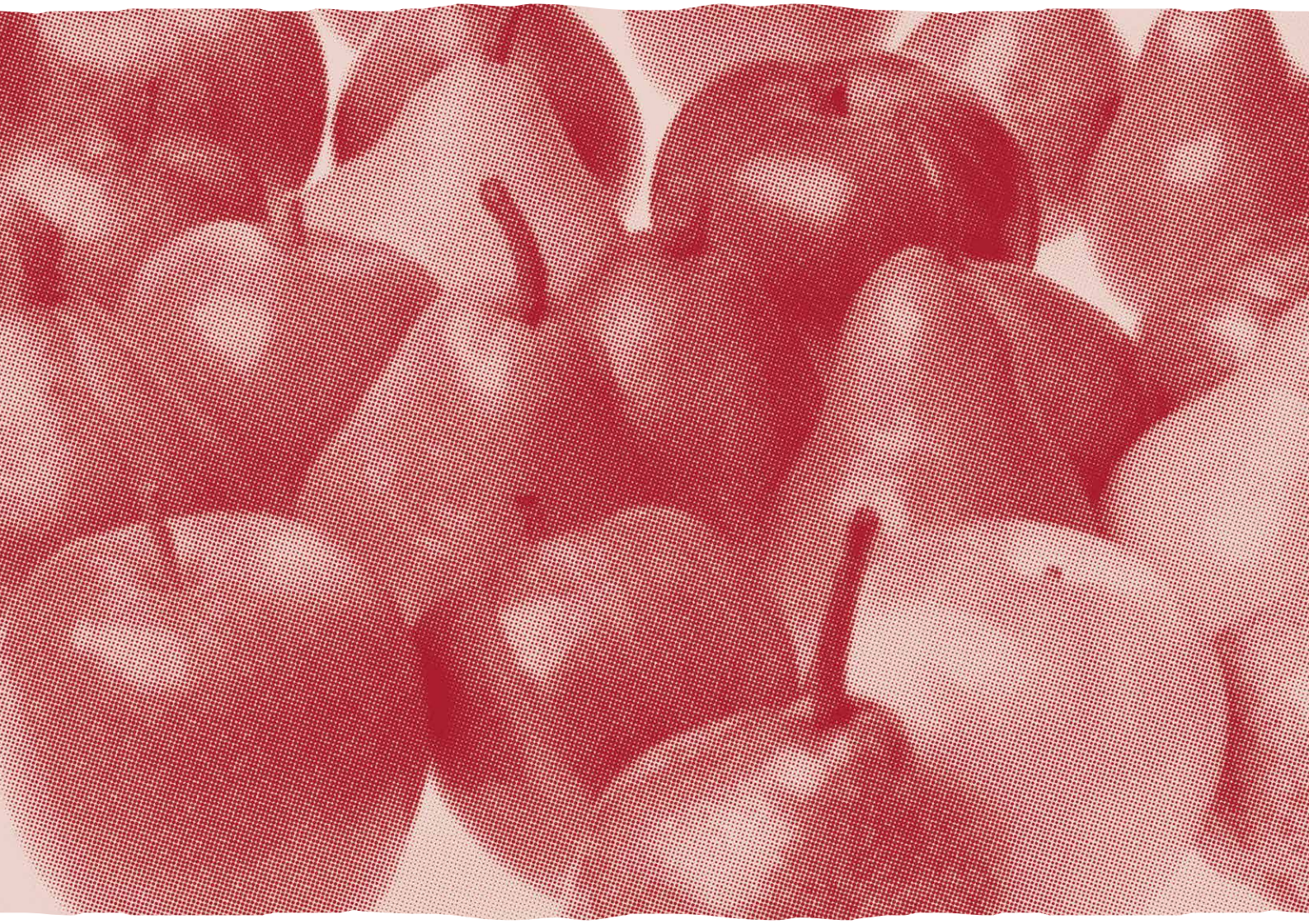
6

SECTION SIX

Risk management

The purpose of this risk section is to highlight any unique or specific risks that qualify the SIP. 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 reflective of the general investment risks which will be considered in the project investment process.

No significant or specific risks were found that may qualify this SIP, however, there is a risk of a lost opportunity to leverage industry R&D funds more effectively, if this SIP is not effectively aligned with the SIP for other temperate fruits where many opportunities exist to co-fund project work.

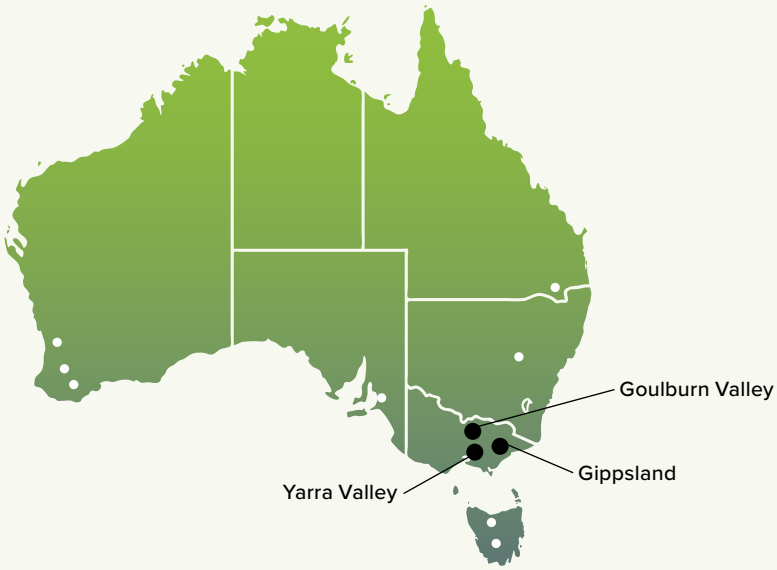


APPENDIX 1:
Consultation findings

Industry consultation was conducted in almost every production area.

Apple

Pear



Key themes from industry consultation

As noted, the industry consultation was extensive in this SIP process. A full qualitative report was not funded in the project scope, but the following short points serve to capture the industry mood. The feedback has been recorded under a number of themes that were evident throughout the industry consultation:

1. **Growers emphasised that it does not make sense to invest in productivity improvement without investment in market development.**

   A resounding theme in the consultation was the need to spend industry funds on increasing market demand. Most felt that the R&D investments had delivered productivity gains that were necessary in the past, but these were not of value if the market cannot absorb the increase. The feeling was that current issues needed to be addressed, which focused on increasing demand and restoring industry profitability.

2. **Future Orchards® is acknowledged as the best use of levy funds to date.**

   Many in the industry are passionate about retaining the Future Orchards® program. Reasons noted in the consultation for the success of Future Orchards® were:

   - Participants have valued the interaction/engagement with other growers from their district
   - Larger businesses believe the program has been particularly important for upskilling supervisor level team leaders
   - Future Orchards® has broken down the barrier between science and producer – what has been perceived as theoretical in the past has not been applied.
   - User-friendly delivery format:
     - **Sessions are run locally**
     - **Delivered by people whom the growers respect.**

   Some counter-views on the Future Orchards® program were:

   - Some areas feel that a stronger local group that meets more regularly is more effective, for example, orchard extension group, Donnybrook
   - Uptake in the program is not as high as it could be – there is a view that some growers believe they know it all already
   - Some feel it has run its race
   - There were mixed views on the program being supplied by a New Zealand supplier.

3. **There is poor awareness of PIPS generally and of its outcomes.**

   Very few of the growers in the discussion groups were aware of PIPS program and most could not name an outcome it had delivered to their business. Others were highly critical of its return on investment. This is not to say that the PIPS program has not added value to industry – it appears to be a communication issue with poor overall awareness. In general, it was difficult to engage growers in the discussion groups about pest and disease issues and R&D generally, as discussions returned repeatedly to issues of market development. Key pest and disease issues noted in the consultation were:

   - Apple replant disease 'Sick Soil Syndrome'
   - Codling Moth (being addressed in PIPS 2)
   - Alternaria
   - White root rot
   - Mealybug
   - Medfly
   - Queensland Fruit Fly
   - Apple scab
   - Wolly apple aphid (WWA) also referred to as light brown apple moth (LBAM).

4. **There is interest in applying more extension and capability building investment in the pack house.**

   Numerous respondents suggested a need to build and extend the Future Orchards® concept into the pack house. Pack house efficiency was thought to be highly variable across the industry and that there was benefit in greater consolidation, so that investment could be made in newer technology.

5. **More advanced growers recognise there are workforce skill gaps, particularly around middle management. Labour remains the highest cost, so these issue are a high priority.**

   Skill gaps noted were:

   - Orchard management basics such as pruning techniques
   - Soil health
   - General supervisor skills
   - Leading a workforce of multiple cultures and languages is challenging in any context but for inexperienced supervisors the challenged are magnified, resulting in poor labour productivity.

6. **The business case underpinning club varieties is misunderstood, but represent a powerful opportunity to improve industry discipline.**

   Some growers view club varieties as a negative occurrence in the industry. Smaller growers who are not able to secure a license to grow PBR varieties feel that they are locked out of producing the high yield and high margin varieties. There is also disquiet as some of the marketing programs associated with club varieties are not delivering the returns promised to growers. The irony is that the club varieties are locking in quality standards and the industry discipline required to improve the consumer eating experience and de-commoditise the category.

7. **The more experienced voices in the industry noted that unresolved, everyday pest and disease issues should not be forgotten, for example, Codling Moth.**

   With much of the industry discussion focused on market development, it was easy to overlook pest and disease investment. With prompting, the discussion groups did indicate that there were many pest and disease issues that were still a significant cost to industry and R&D on these should not be abandoned.

   Some respondents also raised the need for more work on a stronger industry biosecurity manual, particularly with the need to increase exports. This was not a widespread theme as many respondents did not know what was meant by a biosecurity manual.

8. **There is agreement on the need to develop export markets but differing views on industry's export capability.**

   Many growers who had exported in the past through wholesalers or agents did not feel that there was a need to invest in export skills, but considered exports to be simply a market access issue.

9. **With rising supermarket standards, there is a need for more profitable outlets for second grade fruit, including waste streams.**

10. **Growers believe that poor consumer experiences are a result of the way fruit is handled in the supply chain**

    There was much criticism in the industry discussions about the way supermarkets handle apples. The assertion was that the apples were perfect on leaving the pack house, therefore his is a supermarket issue rather than an industry issue.

11. **Opinions are divided around the future potential of robotics**

    There were some differences of opinion regarding robotics. Some respondents felt that robotics were only a few years away from being a commercial reality and have the potential to be a game changer. The view was that industry needed to prepare for robotics, particularly with respect to planting formats. Others felt that robotics were a long way from being a commercial reality and believed that the cost per unit would be prohibitive. However, all agreed that it was important for industry to invest in automation to reduce labour costs.

12. **Most would like to see more focused spend on SIP – fewer high impact projects**

    Many felt that the bigger picture issues of marketing to drive consumption growth and export market development were so critical that all industry funds should be diverted to this effort.

    The need for continual effort to reduce labour cost was also a high priority.

    The majority view was that fewer bigger picture projects was the desired approach.

13. **Business skills of growers vary enormously between sophisticated corporates and SMEs. It is alleged that many growers do not know cost of production.**

    The SIAP needs to be mindful of the fact that there are many different business types in the industry, all of whom are levy payers. The SIP needs to tailor projects to all tiers of businesses with a strong focus on export development and supermarket category management to grow demand for the larger players; programs to lift the performance of the medium sized businesses who have the capability to grow; and engagement activity to assist other businesses to either exit the industry with dignity or find new business models where they can be profitable. Tiered programs with different strategies to develop business skills in each different size of operation is needed.

14. **Industry should not be complacent about food safety**

    Discussion about food safety and minimum residue levels was not wide spread across all groups but some industry leaders held grave concerns about this issue. The blockers to building the United Kingdom market due to DAP was a case in point. The threat to export potential and the Australian brand was another example given.

APPENDIX 2:
Consultation and validation

This plan has been developed in consultation with Australian apple and pear levy payers through the following steps:

1. A presentation was prepared to outline a suggested approach to the SIAP and to stimulate discussion on the key external factors impacting the industry
2. Workshops were held with both the SIAP and the APAL industry leaders group to approve the project approach and discuss consultation reach
3. A series of workshops and interviews were held in every significant growing region around Australia
4. A draft SIP was prepared in presentation format
5. The draft SIP was presented for testing and discussion with the SIAP in a third workshop session
6. SIAP members provided additional feedback to the draft SIP over the following week
7. The SIAP was converted into the Hort Innovation template.

The consultation for this SIP was extensive. Note, due to the large number of attendees at some groups, not all names of attendees were captured.

Discussion group attendees	
QLD Discussion Group (21.07.16) Trent Vedelago Ugo Tomasel Dino Rizzato Rosie Savio And others	**WA Discussion Group Perth Hills (25.07.16)** Bruno Delsimone John Gregorvich Mario Casotti Nardia Stacy And others
Donnybrook Growers Dinner (25.07.16)	**Manjimup Growers Dinner (26.07.16)**
Adelaide Hills Discussion Group (29.07.16) Robert Green (SIAP member) Rohan Gilmour Tony and Joe Ceravolo Matthew Flavell Joel Brockhoff Noel Mason Susie Green And others	**TAS Discussion Group (03.08.16)** Andrew Scott John Evans Andrew Griggs Andrew Smith Ryan Hankin Scott Price Chris Knapek And others
NSW Orange Discussion group (27.08.16) Peter West Fiona Hall Ian Pearce Michael Curial Myles Parker Guy Gaeter Troy Williams Ross Pearce And others	**NSW Batlow Discussion group (23.08.16)** Ian Cathels James Oag John Power (SIAP member) Kevin Dodd Barry McLean And others
	NSW Batlow Growers Dinner (23.08.16)
NSW Orange Growers Dinner (22.08.16)	**VIC Northern Discussion Group (31.08.16)** Shane Hall Nathan and Dustin Barolli Shannon Mehmet Michael Morey Gerard Alampi Jaggie Singh Chris Georgopoulos And others
VIC Southern Discussion Group (22.09.16) James Ryan Bernadette Russo Nick Russo Joe Russo Norm Priest David Finger Brad Fankhauser And others	

Discussion group attendees	
OTHERS	
Name	**Organisation**
Scott Hansen	Tasmanian pear grower
Baden Ribbon	Hansen Orchards
John Dollisson	APAL
Phillip Turnbull	APAL
Angus Crawford	APAL
Craig Chester	APAL
Sophie Clayton	APAL
Olivia Tait	APAL
Kevin Sanders	APAL
Luke Osborne	DAWR
Lyall Grieve	DAWR
James Allan	DAWR
Jenny Vandemeeberg	AusTrade
Sam Reid	Willie Smith Organic Cider
Jane Anderson	Australian Cider Association
Nicole Giblett and Paul Good	Newton Orchards
John Sharp	Pruning contractor
Heidi Parkes	Queensland Department of Agriculture
Mark Spees	Hort Innovation
Stuart Burgess	Hort Innovation
Graeme Yardy	Hort Innovation
Michael Rogers	Hort Innovation
Lisa Troy	Hort Innovation
Ben Darbyshire	B & GA Darbyshire
Scott Montague	Montague
And others	

APPENDIX 3: Bibliography

Title	Author
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Australian Horticulture Statistics Handbook 2014/15	Hort Innovation
Australian National Crop Estimate	APAL
Australian Pomefruit Industry Orchard Business Analysis Report, 2015	AgFirst
Cider in Australia Presentation, 2016	Batlow Apples
Fruit Tracker Apples & Pears June 2016	edentify
Hort innovation, MT14006 'Export – Import Market Intelligence Project' Quarterly Report	
IBIS Worlds, 2016	IBIS World
IHS Global Trade Atlas	IHS
Understanding Food Service, 2015	Food Service Suppliers Association

APPENDIX 4: Market access – apples

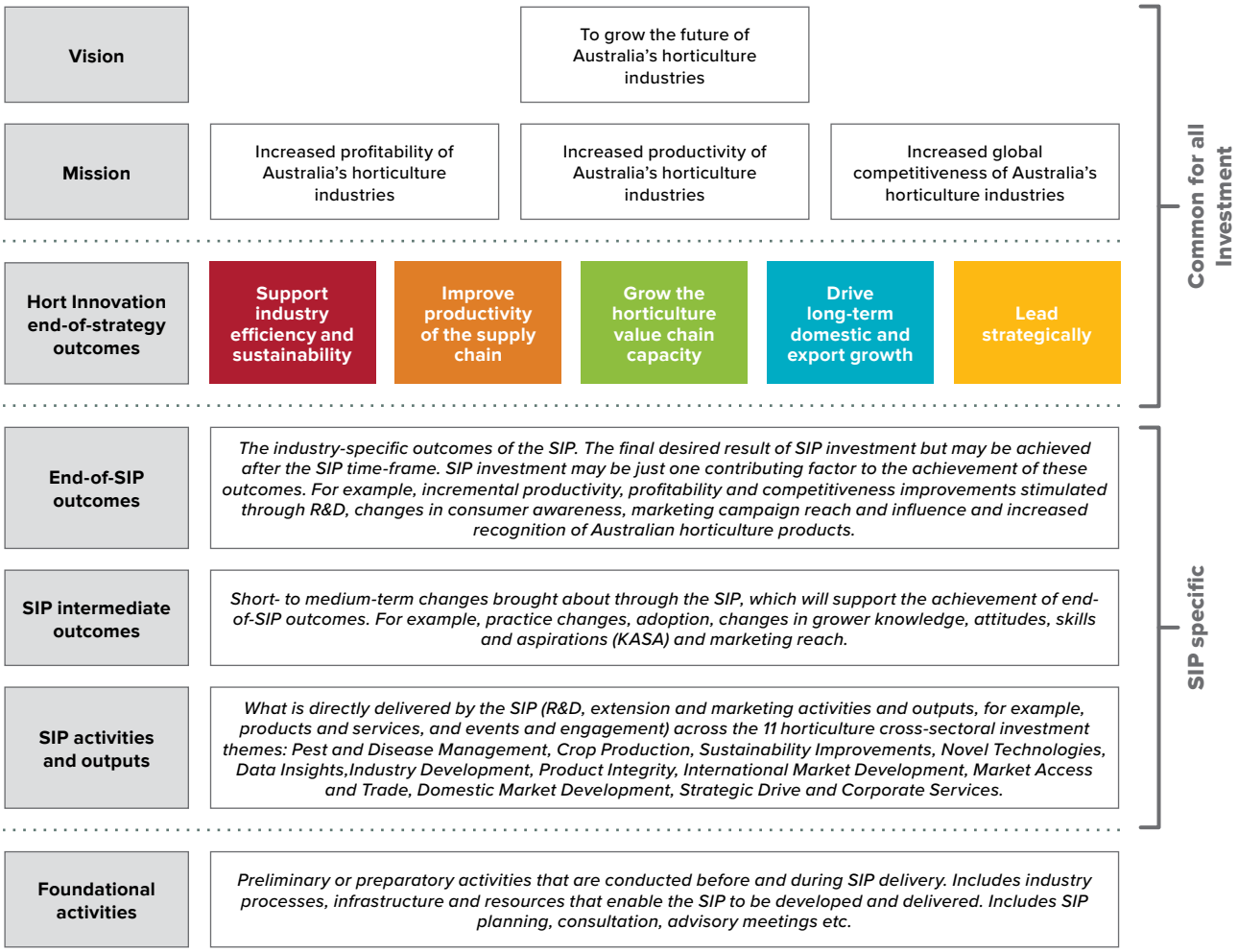
The summary below outlines the market access situation at the time of writing this plan. Market access is a fluid situation that is subject to change at short notice. Australia has open access for apples to Hong Kong, Singapore and Malaysia, but these markets are extremely price competitive, so Australian apples, because of a higher production cost, struggle to compete.

Middle Eastern markets are accessible with the appropriate protocols but are extremely price sensitive and less profitable than other markets. Unfortunately for Australia, there is restricted access into many of the markets that offer the best potential including Indonesia, Taiwan, Vietnam, China, and in the longer term, India. The access restrictions vary from market to market as outlined below:

Indonesia	Subject to non-tariff barrier quota
Thailand	The need for market improvement to allow cold atmosphere stored fruit to be accepted as cold treatment
Taiwan	The need to regain market access for mainland apples and pears since the loss of this market in 2006
Vietnam	The need to regain market access after the closure of the market in 2015
China	The need for market improvement to allow access for apples to be maintained
India	Good long-term potential, but there is a need to renegotiate the proposal to remove the need for fumigation
Canada	Market improvement is needed to remove the need for fumigation

Note: Market access and improvement negotiations are currently in progress at the time of writing.

APPENDIX 5:
Logic hierarchy



APPENDIX 6:
Market access – pears

The market access situation in pears is like that of apples although pears have made breakthroughs in some markets in recent seasons. The market access priorities for pears are:

Thailand	The need for market improvement to allow cold atmosphere stored fruit to be accepted as cold treatment (as for apples)
Taiwan	Regain access for mainland pears (as for apples)
Vietnam	Regain market access after the closure of this market in 2015 (as for apples)

Note: Market access and improvement pathways are in various stages of negotiation, the status of which was unavailable at the time of writing.

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