Horticulture Australia Limited

Lychee Strategic Investment Plan 2013-2017

March 2013

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Executive summary

This Strategic Investment Plan (SIP) was developed by the Australian Lychee Industry in conjunction with Horticulture Australia Limited (HAL). Its purpose is to guide the national industry's growth and development as well as direct the expenditure of Lychee Levy funds and matching Federal government R&D support.

The Australian Lychee Growers Association (ALGA) committee members came together to review the industry's current situation; the past strategic plan and grower feedback received. With this information in mind, the ALGA developed a Vision for the industry by 2018; and developed Objectives and Strategies to achieve that Vision.

Industry Vision

- To significantly increase profit margins of Australian lychee growers by 2018

Industry Mission

- Supplying and marketing high-quality, delicious, fresh lychees, while delivering healthy return on investments for growers

Table 1 below provides a summary of the SIP.

Table 1 SIP summary

Objectives	Strategies *(Estimated Benefit Cost Ratio)*	KPIs
To achieve an average farm gate price of $7/kg by 2017	**To review and implement the Domestic Marketing Plan** *(3.7)*	By 2018 achieve a 20% increase in household penetration in NSW and Queensland, measured via Homescan data By 2018 achieve a 20% increase in overall purchase frequency amongst weekly and occasional buyers, measured via Homescan data By 2018 achieve a 20% increase in household spend on lychees, measured via Homescan data By 2018 achieve a 20% increase in availability and visibility of lychees, measured via consumer research Trade education and retail engagement activities implemented by 2018
	To improve retail quality, presentation and appearance *(8)*	Successful adoption of the plastic lid box (minimum 80% positive feedback from retailers) Supply chain issues identified and addressed
	To review and implement the Export Development Plan *(302)*	Increased exports from 12% to 50% of production by 2018, measured via GTIS or similar data sources. Market access gained to China and US markets by 2018

Objectives	Strategies *(Estimated Benefit Cost Ratio)*	KPIs
To improve lychee production practices and sustainability across all growing regions	**To evaluate new lychee varieties, supplied by CSIRO and currently being trialled by ALGA, as well as varieties introduced from overseas** *(8.9)*	At least one new lychee variety evaluated and commercially available by 2017, for both the Northern and Southern growing regions
	To improve lychee production practices via IPM *(125)*	Maintenance of current chemicals registered (including permits for use of softer chemicals) under Minor Use Permits to cover pests and diseases in major growing regions Results of Fruit Spotting Bug Project communicated to Industry Increased industry adoption of IPM practices, assessed via industry survey
	To improve production efficiencies *(93)*	Best Management practices developed for the management of autumn flush to improve flowering Industry have a permit to use ethryl to remove unwanted autumn flush
To deliver quality industry communications and improve leadership, strategic and succession planning	**To improve leadership, strategic and succession planning within the lychee industry** *(64)*	An ALGA/IAC succession plan developed by 2017 An ALGA secretariat protocols manual developed by 2017 ALGA secretariat executive members attend at least one HAL forum each year SIP updated in 2017
	To maintain quality industry communications *(4)*	Three lychee grower events held by 2017 (potentially including information days held in association with Queensland DAFFQ, workshops and an industry conference) Maintenance of the tri-annual Living Lychee magazine

Figure 1 below shows the indicative expenditure break-down by strategy. A detailed indicative budget is provided in Appendix B.

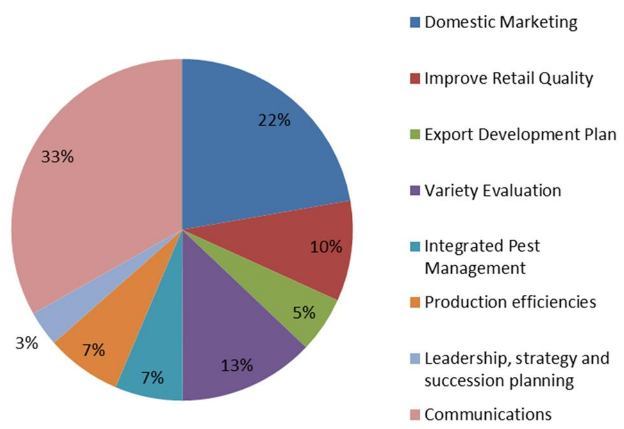

Figure 1 Indicative budget expenditure by Strategy

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1. Introduction

The purpose of this Strategic Investment Plan (SIP) is to guide the development and growth of the Australian Lychee industry, including providing a framework and direction for expenditure of the industry's marketing, and research and development (R&D) levies.

This SIP is the first completed in accordance with the recently established HAL Strategic Investment Planning Guidelines. As a result all investment Strategies have undergone scrutiny to ensure that levy-payers and Government investors can be confident that investments offer the best path to growth and profitability for the industry.

1.1 Methodology

The SIP was developed by GHD in collaboration with Horticulture Australia Limited (HAL) and ALGA and the Lychee Industry Advisory Committee (IAC).

The process for developing the plan involved the following steps:

1. In mid-2012 lychee growers were invited to assess the previous SIP and provide feedback/suggestions for the new SIP. The ALGA emailed 60 growers background review material and a feedback form to complete and return with their comments and input into the review. An article was also published in the industry magazine 'Living lychee' which is posted out to all levy payers, asking for their input into the development of the new SIP.
2. The ALGA/IAC met in Brisbane on October 9th-10th for a Strategic Planning Workshop. Participants reviewed grower feedback, Situation Analysis material and completed a Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis, before establishing Strategic Objectives, Strategies, Sub-strategies and Key Performance Indicators (KPIs). The ALGA/IAC evaluated potential Strategies using prioritisation analysis.
3. Investment Strategies were further evaluated via Benefit Cost Analysis (BCA) and the draft SIP completed for ALGA/IAC review.
4. The SIP was finalised based on industry and ALGA/IAC feedback.
5. The ALGA/IAC endorsed the SIP 2013 – 2017 in March 2013.

2. Situation analysis

2.1 Product

2.1.1 Volumes and value

Previous forecasts suggested domestic production would reach 4,000 tonnes per annum by 2012/13. Actual production has been much lower averaging 2,134 tonnes per annum over the previous 5 years, with considerable variation between years.

For budgeting purposes the ALGA/IAC have set a leviable production forecast of 2,000 tonnes per annum (Figure 2). An additional 250 tonnes per annum is expected to be sold at roadside.

If Australia were to gain export market access to China and US markets, there would be a lag time of a number of years before increased demand spurred increased production.

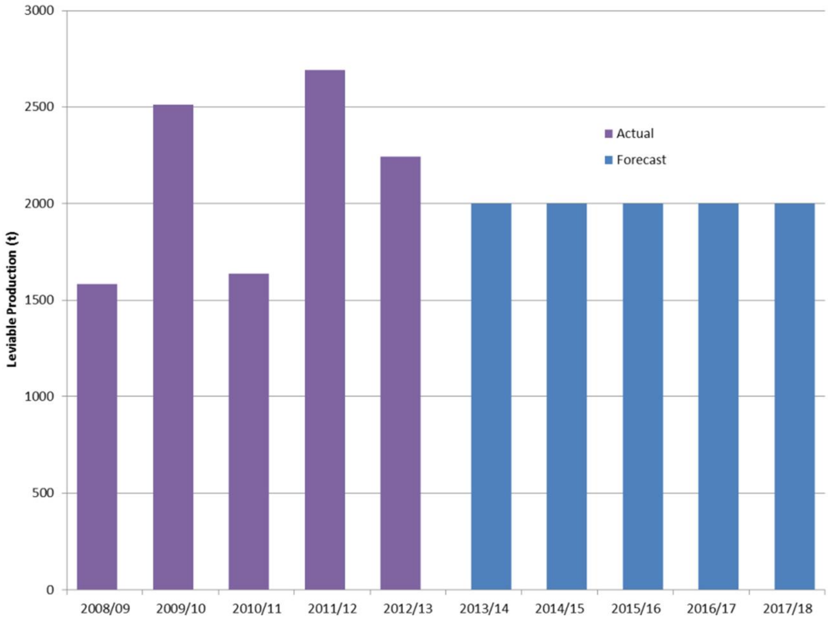

Figure 2 Actual and forecast production

Based on an average farm-gate return of $5/kg, the farm-gate value of the industry in 2012 is estimated at $11 million.

2.1.2 Varieties

- Currently eight varieties of lychee are grown in Australia with the small-seeded varieties able to attract a price premium; along with the North Queensland early-season production. The main varieties in order of market volume are: Bosworth (syn. Kwai May Pink), Tai So, Fay Zee Siu (syn Feizixiao), Salathiel, Souey Tung, Sah Keng and Kaimana.

- New varieties are being sourced through an industry and government funded selection program plus imports of elite overseas cultivars, including seedless varieties. New domestic varieties are also being trialled by ALGA, using seedlings supplied by CSIRO.

2.1.3 Growing regions

- Lychees are grown in specific regions along a significant stretch of the eastern seaboard from Cooktown in far north Queensland to Coffs Harbour in Northern NSW. Volume production concentrations are in the regions of Sunshine Coast, Bundaberg, Rockhampton, Mackay, Ingham, Tully and the Atherton Tablelands.
- There are also a few growers in the Northern Territory and Western Australia. No data is available for regional production volumes and trends.
- The number of growers is estimated at about 300, with most having less than 4,000 trees.

2.1.4 Availability

- The production season (i.e. product availability) typically runs from late October to mid-March.

2.2 Markets

Table 2 provides an estimate of market segments for Australian lychees (based on a 2,000 tonne crop). In the coming years growth in farmers markets may increase the roadside/direct market segment. Gaining access to the Chinese market has the potential to increase the export market segment to an estimated 50% of production.

Table 2 Summary of estimated market segments

Segment	Proportion	Total
Roadside/direct sales	15%	350t
Export	12%	282t
Major chains	25%	587t
Independent retailers	48%	1,128t

2.2.1 Domestic

- The vast majority of production is consumed domestically and sold primarily in the major metropolitan markets of Sydney, Melbourne and Brisbane. Small but strong demand also exists in Adelaide and Perth.
- The bulk of the domestic market is supplied by independent grower/producers, though two marketing groups do exist. United Lychee Marketing Authority (ULMA), which markets the “Sun Lychee” brand, has allied growers in all growing regions and is growing in size and influence; and Top Crop, which operates out of north Queensland.

2.2.2 Processing

- There appears to be no commercial domestic processing activity.

2.2.3 Export

- Australian lychee exports are primarily to South-East Asian countries, the UAE, Pacific Islands and Canada. Market access to New Zealand was achieved in 2009 using irradiation for disinfestation.
- A decline in exports was experienced after China joined the WTO and Australia no longer had access to the mainland Chinese market. If industry can achieve market access to China, significant industry expansion could be achieved to supply this large counter seasonal market.
- Hong Kong remains the main 'destination' port for Australian lychees and accounts for around 40% of all exports.
- No pre-shipment treatments are required for the markets of Hong Kong, Singapore, UK, France, Belgium, UAE and Canada.
- Disinfestation treatments and protocols have been developed for the New Zealand market.
- Disinfestation treatments and protocols are being developed for the markets of Mainland China, and the US.
- Australian lychees do not currently have market access to Taiwan.
- All Australian exported lychees are able to be marketed as 'fresh fruit' as air freight is used and cool chain integrity maintained.
- Australian lychees are counter-seasonal to Asia, thus providing a strong market opportunity (particularly around Chinese New Year).

2.2.4 Import

- Lychees are imported from China and Thailand counter seasonally to Australian production. This could be a potential advantage to the Australian industry by increasing consumer exposure to fresh lychees throughout the year. However, the quality is poor relative to the Australian product. This is a concern for the Australian industry as a negative consumer eating experience of imported product may lead to lower demand for all fresh lychees.

2.3 Consumers

Consumer research suggests there is significant potential for increased domestic consumption. Specific findings include:

- Most consumers are unfamiliar with or unaware of lychees, their taste, preparation and uses.
- Purchasing is significantly skewed to those of an Asian background who have knowledge and an established liking for the fruit.

- Consumers show a clear preference for smaller-seeded fruit with a higher flesh/seed ratio.

Industry has recently gained access to regular AC Nielsen Homescan Data which has demonstrated the following purchase and consumption patterns:

- 11.2% households purchase lychees.
- $6.6 is the average spend on lychees per household.
- Typically, each household buys 2 times while in season.
- Each time spending $3.3 per trip
- Average household spend and reach peaks during the Christmas and post-Christmas period.
- Established couples and senior couples account for around 40% of lychee sales.

2.4 Competitors and the nature of competition

2.4.1 Competing products

- Primary competitors are other unique, tropical, seasonal fruits (e.g. Tasmanian cherries). Lychees are mostly an impulse purchase.

2.4.2 Competing production

- Entry to the industry is reasonably easy; however orchard establishment can be relatively costly
- In addition, if new land is required, this can be costly in some of the current production areas
- Previous growth in the industry has occurred as sugar cane farmers switch production to lychees, however this trend appears to have slowed or even reversed in recent years
- Planting material for all current cultivars is readily available.

2.4.3 Competitive advantage

Product

- Exclusive window of availability with no imported product during the Australian season
- Healthy, exotic, distinctive, fruit with a unique appearance, taste and texture
- Well known and liked by those of Asian heritage
- Australian grown
- Limited seasonal competition for export markets, particularly during Chinese New Year
- Export consumers (particularly Asian markets) regard Australian lychees as superior to the sea-freighted, sulphur dioxide treated fruit from our main competitor, South Africa.

Industry

- Speed to market (particular export)
- Reasonable cool chain management
- Superior varieties (large fruit)

2.5 Operating systems

2.5.1 Production systems and processes

- Australia has high cost of production compared to other lychee producing countries, though no formal benchmarking information is available or being collected specific to the Lychee Industry. Labour costs are recognised as having risen significantly in the labour intensive Horticulture sector over the past five years
- The industry prides itself on production of high yielding, clean, green and high-quality fruit and sees this niche as a strong marketing platform, especially for export
- There is no formal, quantitative data collection on the industry, varieties, production or supply chain. This is considered a weakness.

Harvesting

- Lychees are hand-picked from the ground, or using ladders, platforms or cherry pickers. Growers generally have their own packing facilities and on-farm fruit handling and cool-chain management is generally good
- Harvesting starts in far north Queensland in late October and finishes in northern NSW in February/March. Some oversupply problems can be experienced when harvesting times from different regions overlaps.

Farm/wholesaler transport

- Generally refrigerated, though this link in the chain can be a weakness, particularly for growers more remotely located who may have to use less than ideal transport options.

Wholesale

- Product is sold both through market agents and direct to supermarkets, though no reliable information exists on the volumes and trends for each
- There is a poor understanding of costs and value along the supply chain; and not a good understanding of supply chain efficiency or limitations.

Wholesale/retail transport

- Very variable with many independent retailers using un-refrigerated transport.
- Supermarket distribution theoretically maintains the cool chain.

Retail

- Little known about retailers' attitudes and practices and potential for improvement.

QA

- QA standards and systems are available, though level of usage not known. However, marketing groups have formal QA systems in place.

2.5.2 Marketing systems and structures

Packaging

- For the domestic market lychees are bulk-packed in two 2.5 kg plastic bags or one 5 kg bag, and then shipped in 5kg lidded cardboard boxes.
- Similar packaging is used for export, though a 2 kg carton is also used for some specific markets.
- Some individual growers, the two marketing groups and some retailers have utilised retail-ready consumer packaging in an effort to improve post-harvest shelf life. There is no clear evidence of the impact of these initiatives.
- Two recent R&D levy/voluntary contribution projects ('Retail quality improvement 2011-12' LY11001 and 'Industry Adoption of new lychee packaging' LY12003) have led to the introduction of a new plastic lidded box. The box is designed to reduce dehydration and increase the 'red life' of fruit.

Retail

- It is likely that independent retailers are more familiar with lychees and more active in marketing and presentation.
- Supermarkets are considered an area of significant opportunity for sales growth, though work needs to be done to ensure improved storage and handling, to reduce wastage and consumer dissatisfaction.

Branding/identification

- While individual growers producer identify/brand their produce cartons, lychees are primarily unbranded in the consumer sense. They are usually sold, in bulk at retail and labelled simply "Lychees".
- There is some evidence that a small number of aware consumers actively seek the small-seed fruit, by variety.

Marketing programs

- An active (though budget-limited) marketing campaign is ongoing. Current positioning is: "Live it up with Lychees". The program includes:
    - POS distribution ($3,808)
    - PR ($23,500)
        - Season announcement
        - 'Live it up with Lychees' Media outreach
        - Digital PR: Lychee 'cocktails and canapés' blogger competition

- Digital PR: Lychee 'what cocktail are you' quiz – online quiz

2.6 Industry organisation and performance

2.6.1 People

- Good linkages with both state and federal research and related agencies (such as Queensland Department of Agriculture Fisheries and Forestry (DAFFQ) and CSIRO). Positive attitude and support from these organisations
- As with many other agricultural enterprises the average age of growers is 50+. This has implications for future industry rationalisation; sourcing and development of industry leaders and the overall longer-term viability of the industry.

2.6.2 Industry organisation

- The industry's recognised peak industry body is the Australian Lychee Growers Association Inc (ALGA).
- ALGA has approximately 120 members which is thought to be only around 40% of all growers.
- ALGA has a five-member Executive and a part time executive officer – a situation which places some pressure on the volunteer Executive members.

2.6.3 Funding

- A statutory levy (66.6% R & D; 33.3% Marketing) on fresh produce, by weight, has been in place since February 2004:
  - Fresh – 8c/kilogram
  - Processing - 1c/kilogram
  - Export – 8c/kilogram

Based on the forecasted leviable production of 2,000t per annum, the following funds are forecast to be available for project investment (including funds already allocated to ongoing projects).

Table 3 Projected project funds available

Year	Non project costs	R&D project funds available	Marketing project funds available
2013/14	$ 48,225	$ 191,779	$ 40,281
2014/15	$ 45,800	$ 184,266	$ 40,364
2015/16	$ 45,910	$ 184,356	$ 40,565
2016/17	$ 45,872	$ 183,435	$ 40,515

Year	Non project costs	R&D project funds available	Marketing project funds available
2017/18	$ 46,121	$ 183,410	$ 40,583
TOTAL	**$ 231,928**	**$ 927,246**	**$ 202,308**

2.6.4 Technical information and communication

- The recently completed major R&D project, 'Unlocking Lychee Research – phase 2' LY06001 provided a good communication network for the industry.
- The major industry publication, Living Lychee, is produced three times per year and covers a wide range of industry issues (non agri-political), R&D and marketing reports.

2.6.5 Biosecurity and risk management

- The R&D project 'Industry biosecurity plan development for lychees' LY10001 ensures industry has a sound plan in the face of any incursions.

2.6.6 Community relationships

- Industry is very positively regarded within its communities and is recognised as a producer of high-quality fruit.
- Industry continues to deal with environmental and community attitudes in relation to control of pests such as lorikeets and flying foxes.

3. SWOT analysis

Based on the information in the Situation Analysis the following SWOT analysis was completed for the Australian Lychee industry. Strengths and weaknesses are generally current attributes, while opportunities and threats are generally future considerations.

3.1 Strengths

- Counter seasonal supply to Asia
- Extended season due to various growing regions
- Fruit produced without use of Sulphur Dioxide, as opposed to seasonal export competitors (e.g. South Africa)
- Roadside vendors actively market the product
- Market access recently obtained for New Zealand

3.2 Weaknesses

- Retail merchandising issues affecting fruit quality and appearance
- Winged vertebrate pests (birds and bats) remain a production issue given the high cost of effective exclusion netting or alternative technologies.
- Aging grower population and lack of succession planning within industry bodies

3.3 Opportunities

- New plastic lid box being introduced to help address retail quality and appearance issues
- Market access to China and US moving closer
- New small seed varieties are being developed for export markets (mainland China)
- Better understanding of what adds consumer value will provide opportunity to drive innovation in the lychee industry over the next few years. Research in other fruit commodities ranks flavour and ripeness as important. The industry has fully supported both domestic and export market campaigns. In store demonstrations and customer education via point of sale material is a key to building product recognition.
- High and regular yielding improved quality varieties are the key to improved domestic and export market potential.
- Counter seasonal exports remain elusive but are opportunities for the industry to develop, particularly to countries without strict quarantine requirements.

3.4 Threats

- Competition on the domestic market from alternative summer fruits

- Current postharvest technology limits extended storage and market flexibility. The inability to provide consistent supply of market-preferred varieties to the domestic and expanding export markets. This is a particular challenge for a highly seasonal crop such as lychee
- If market access to China and US is achieved, the production lag may restrict the industry's ability to provide consistent supply to these new (or existing) markets.
- Imports from Thailand and China have been arriving in Australia since 2005. The out of season supply is not a threat to industry. However, the challenge to industry is to ensure that imported product is of sufficient quality to build consumer confidence and expand the domestic market for Australian produced product.
- Ongoing increases in production costs (electricity, labour)
- Environmental concern surrounding agricultural chemical and nutrient runoff damaging the Great Barrier Reef in coastal North Queensland.

4. Vision and Mission

The ALGA/IAC has reviewed and amended the industry's Vision and Mission statements as follows:

4.1 Vision

A Vision Statement is a concise, target for what the industry would like to achieve. The Australian Lychee Industry has the following Vision.

To significantly increase profit margins of Australian lychee growers by 2018

4.2 Mission

A Mission Statement defines the industry, its key purpose and values. The Australian Lychee Industry has the following Mission:

Supplying and marketing high-quality, delicious, fresh lychees, while delivering healthy return on investments for growers

5. Objectives

In order to deliver the industry's Vision of significantly improving grower profit margins, the following three Objectives have been set.

Table 4 HAL and lychee industry Objectives and rationale

HAL Objective	Lychee industry Objective	Rationale
Increasing demand for the product	**1. To achieve an average farm gate price of $7/kg by 2017**	Delivering an improved farm gate price for Australian Lychees is fundamental to the survival of farm businesses and the industry as a whole. Increasing domestic and international demand for the product is necessary to deliver higher prices. Previous market research demonstrates considerable opportunity to lift domestic demand through targeted PR and point of sale marketing, and measures to improve retail appearance and quality. Research suggests that a large proportion of Australian consumers are still unfamiliar with lychees and how they can be prepared/eaten. Research also suggests that the majority of lychee purchasing decisions are unplanned and impulsive. From an export marketing perspective there are substantial opportunities to lift demand, by cultivating existing markets e.g. New Zealand and Canada, and seeking access to new markets e.g. China and USA.
Increasing production efficiency	**2. To improve lychee production practices and sustainability across all growing regions**	Ongoing improvement in production practices is necessary to drive increased farm production, improved fruit quality and environmental sustainability. These measures in turn drive improvements in farm profitability. The industry is on the verge of attaining access to new improved varieties, pending the results of evaluation trials. The adoption of Integrated Pest Management (IPM) is increasingly important for lychee growers. IPM is now a crucial means of controlling pests without over-reliance on traditional pesticides. IPM offers growers the ability to manage pesticide resistance while meeting community and consumer expectations with regards to the environment and food safety. Therefore there is an ongoing need to invest in targeted research (e.g. fruit spotting bug) and maintenance of minor use permits.

HAL Objective	Lychee industry Objective	Rationale
Ensuring an effective operating environment	**3. To deliver quality industry communications and improve leadership, strategic and succession planning**	Effective communication, leadership and succession planning is considered vital to ensure the small lychee industry continues to develop. Effective communications with growers, government and other industry stakeholders is vital in driving collaboration, awareness and learning. In the coming years a range of developments will need to be communicated to stakeholders, including for example: • Continued promotion of the benefits of the new plastic lidded box Evaluation results for new varieties • Possible Chinese and US market access • Marketing and consumption data and research findings • Results of the preliminary industry environmental audit. The Living Lychee magazine has proven to be an effective communication medium; however there is a need to also hold grower events and workshops to further facilitate information sharing. ALGA executive committee (and part time administrative officer) are restricted in their capacity to deliver necessary services to the industry. Fostering new leadership and succession planning is necessary to ensure knowledge and “corporate memory” does not become concentrated in too few growers. The current SIP will need to be updated in 2017 for the next 5 years.

6. Strategies

The ALGA/IAC established Strategies aimed at achieving each of the 3 Strategic Objectives. The Strategies are outcome focussed and contain associated rationale, likely sub-strategies or projects and Key Performance Indicators (KPIs) which will be used to assess if the Strategies have been successful.

Any industry investments over the course of the plan should align and be consistent with these Strategies. There is however some flexibility in the sub-strategies and projects which may change depending on the investment opportunities which arise. An Implementation Plan is provided in Appendix A.

Table 5 Objective 1: To lift demand for Australian lychees in order to achieve an average farm gate price of $7/kg by 2017

Strategies	Rationale	Likely sub-strategies/projects	KPIs
To review and implement the Domestic Marketing Plan	Previous market research identifies considerable opportunities to boost domestic consumption and therefore prices through targeted domestic marketing and supporting market research. Research suggests that the top reasons why consumers do not purchase lychees include: ◗ General lack of awareness of the fruit ◗ Lack of awareness about how to prepare/eat the fruit These results suggest that domestic marketing aimed at raising awareness of Australian lychees would be effective.	◗ Point of sale market development ◗ Public relations and media ◗ Domestic market research ◗ Homescan Data collection	◗ By 2018 achieve a 20% increase in household penetration in NSW and Queensland, measured via Homescan data ◗ By 2018 achieve a 20% increase in overall purchase frequency amongst weekly and occasional buyers, measured via Homescan data ◗ By 2018 achieve a 20% increase in household spend on lychees, measured via Homescan data ◗ By 2018 achieve a 20% increase in availability and visibility of lychees, measured via consumer research ◗ Trade education and retail engagement activities implemented by 2018

Strategies	Rationale	Likely sub-strategies/projects	KPIs
To improve retail quality, presentation and appearance	Market research suggests that approximately 60% of lychee purchases are impulsive (unplanned), and therefore highly influenced by factors such as fruit quality, presentation and appearance. The industry has a good opportunity to communicate with retailers and the supply chain in the next 1-2 years as the new plastic lidded box is introduced. Communication will help to identify and address retail/supply chain issues affecting quality, presentation and appearance.	◗ Retailer support and evaluation activities to support the introduction of the plastic lid box ◗ Retailer and supply chain consultation to identify supply chain quality and appearance issues	◗ Successful adoption of the plastic lid box (minimum 80% positive feedback from retailers) ◗ Supply chain issues identified and addressed
To review and implement the Export Development Plan	The Australian Lychee industry's main export focus is in gaining market access into China and US (to a lesser extent) markets and is seeing developing opportunities in markets such as NZ and Canada. Should market access be achieved, China has the potential to drive a considerable increase in demand for Australian lychees.	◗ Review of EDP ◗ Trade delegations to China and US ◗ Ongoing contact with Biosecurity Australia ◗ Provision of domestic PR and POS marketing material to importers and trade publications ◗ Ongoing liaison with major importers	◗ Increased exports from 12% to 50% of production by 2018, measured via GTIS or similar data sources. ◗ Market access gained to China and US markets by 2018

Table 6 Objective 2: To improve lychee production practices and sustainability across all growing regions

Strategies	Rationale	Likely sub-strategies/projects	KPI
To evaluate new lychee varieties, supplied by CSIRO and currently being trialled by ALGA, as well as varieties introduced from overseas	CSIRO has supplied seedlings for 4 new domestic varieties which are currently being trialling by ALGA. These varieties have the potential to significantly boost production and fruit quality. Ongoing evaluation will be required in order to make these varieties commercially available and ensure they are commercially viable. A number of new varieties sourced from overseas are also being introduced into the Australian market. These varieties are also likely to require evaluation.	◗ Continued funding for project 'Improving fruit yields in lychee' LY10000 until June 2016	◗ At least one new lychee variety evaluated and commercially available by 2017, for both the Northern and Southern growing regions
To improve lychee production practices via IPM	IPM and maintaining minor use permits is increasingly important for Australian lychee growers as the industry relies on a small number of available pest control chemicals. Under the previous SIP an IPM strategy was produced which was used to update the Queensland DPI's Agrilink production manual. Important ongoing projects include fruit spotting bug research and minor use permits for the lychee industry.	◗ Continued funding for 'A multi target approach to fruitspotting bug management project ' MT10049 and communication of research results ◗ Continued funding for Minor use permits for the lychee industry ◗ Finalisation and communication of the IPM strategy	◗ Maintenance of current chemicals registered (including permits for use of softer chemicals) under Minor Use Permits to cover pests and diseases in major growing regions ◗ Results of Fruit Spotting Bug Project communicated to Industry ◗ Increased industry adoption of IPM practices, assessed via industry survey
To improve production efficiencies	To compete on domestic and international markets Australian lychee growers must become more efficient in production, while facing escalating production costs. Opportunities exist to improve production efficiency for example by reducing fruit drop, controlling ripening.	◗ Continued funding for 'Improving fruit yields in lychee' LY10000 in research to reduce fruit drop ◗ Consider the potential R&D needed to apply to APVMA for a permit for industry to use etheryl to remove unwanted autumn flush and improve flowering	◗ Best Management practices developed for the management of autumn flush to improve flowering ◗ Industry have a permit to use ethryl to remove unwanted autumn flush

Table 7 Objective 3: To deliver quality industry communications and improve leadership and succession planning

Strategies	Rationale	Likely sub-strategies/projects	KPI
To improve leadership, strategic and succession planning within the lychee industry	The relatively small Australian lychee industry requires strong leadership and representation in order to deliver the Objectives of this plan. ALGA executive committee (and part time administrative officer) are restricted in their capacity to deliver necessary services to the industry. Fostering new leadership and succession planning is necessary to ensure knowledge and "corporate memory" does not become concentrated in too few growers. The current SIP will need to be updated in 2017.	◗ Development and implementation of an industry succession plan ◗ Development of secretariat protocols manual for the ALGA executive officer ◗ Facilitation of ALGA executive members attending HAL forums and other industry events ◗ Renew current strategic plan after 2017	◗ An ALGA/IAC succession plan developed by 2017 ◗ An ALGA secretariat protocols manual developed by 2017 ◗ ALGA secretariat executive members attend at least one HAL forum each year ◗ SIP updated in 2017
To maintain quality industry communications	Maintaining strong industry communications is considered vital for the ongoing development of the industry, by facilitating sharing of ideas and information. The Living Lychee magazine has been well received by growers. Grower workshops held in conjunction with Queensland DAFFQ workshops are considered to be an ideal way to communicate with growers in relation to the industry levy program. Holding industry conferences requires considerable work, however is considered an important way of bringing the whole industry together.	◗ Living Lychee magazine ◗ Grower events including Queensland DAFFQ workshops ◗ Industry conference (possible) ◗ Industry Annual Report published ◗ Continuation of the Consultation Funding Agreement	◗ Three lychee grower events held by 2017 (potentially including information days held in association with Queensland DAFFQ, workshops and an industry conference) ◗ Maintenance of the tri-annual Living Lychee magazine

7. Analytical business case

This section outlines the analytical business case for each of the Strategies adopted, which provides justification for why specific Strategies were adopted. The analytical business case is composed of two different types of analysis: Prioritisation analysis and BCA.

7.1 Prioritisation analysis

Having identified eight potential Strategies, the ALGA/IAC were asked to rate each Strategy in terms of its urgency, importance, impact and chance of success (see Table 8 for definitions).

Table 8 Prioritisation analysis definitions

	1	2	3
Urgency	Must be addressed within the life of this plan (ie the next 5 years).	Must be addressed within the next 3 years.	Must be addressed immediately.
Importance	Would be valuable to do, funds permitting.	Important for the industry's development and growth.	Critical to the survival of the industry.
Impact	Impact is limited or restricted to a certain sector, region or group.	Considerable beneficial impact, though not of the highest level.	Very significant impact on the overall industry's profitability and or future viability.
Success	Only a limited chance of achieving the outcomes.	Reasonably likely to achieve the outcomes.	Very likely to achieve the outcomes set.

The results (Table 9) are relatively even, with most Strategies considered high priority by the ALGA/IAC. Strategies aimed at lifting demand (Strategies 1,2 and 3) scored slightly higher than Strategies aimed at improving production (Strategies 4,5 and 6), as they are generally seen to be more urgent and capable of making an immediate impact on farm profitability.

Table 9 Prioritisation analysis results

Strategies	Urgency	Importance	Impact	Success	Total
1. To review and implement the Domestic Marketing Plan	3	3	3	2	11
2. To improve retail quality and appearance	3	3	3	3	12
3. To review and implement the Export Development Plan	3	3	3	1	10
4. To evaluate new lychee varieties, supplied by CSIRO and currently being trialled by ALGA, as well as varieties introduced from overseas	1	2	2	2	7
5. To improve lychee production practices via integrated pest management	2	3	2	3	10
6. To improve production efficiencies	2	2	2	3	9
7. To improve leadership, strategic and succession planning within the lychee industry	2	3	3	3	11
8. To maintain quality industry communications	2	3	3	3	11
TOTAL	18	22	20	19	

7.2 BCA

Each Strategy was assessed with a simple BCA based on the HAL SIP Guidelines for assessing investments below $500K.

The results (Table 10) show a large variation in Benefit Cost Ratios (BCR). The highest (302) was calculated for Strategy 3 (export development) which for a relatively small investment may bring about access to Chinese and US markets. The lowest BCR (3.7) was calculated for Strategy 1 (domestic marketing). All BCRs are well above 1 suggesting a positive return on investment for all Strategies (calculations and assumptions are listed in Appendix C).

Table 10 BCA results

Strategies	Average estimated cost/year	Average estimated benefit/year	BCR
To review and implement the domestic marketing plan	$46,756	$175,000	3.7
To improve retail quality and appearance	$20,000	$160,000	8.0
To review and implement the Export Development Plan	$11,120	$3360,000	302.2
To evaluate new lychee varieties, supplied by CSIRO and currently being trialled by ALGA, as well as varieties introduced from overseas	$27,083	$240,000	8.9
To improve lychee production practices via integrated pest management	$13,482	$1680,000	124.6
To improve production efficiencies	$15,000	$1400,000	93.3
To improve leadership and strategic/succession planning within the lychee industry	$7,000	$446,400	63.8
To maintain quality industry communications	$69,671	$277,920	4.0

8. Acknowledgements

The Lychee ALGA/IAC members are acknowledged for their important input into the development of this plan.

- Frank Bosnic
- Derek Foley
- Ian Groves
- Ted Knoblock
- Gavin McDonald
- Chris Salta
- Craig Van Rooyen
- Tony Biggs (IAC Chair)
- Jill Houser (ALGA Executive Officer)
- Elisa Tseng (HAL Marketing Manager)
- Jane Wightman (HAL Industry Manager)

Appendix A

Implementation Plan

Table 11 below outlines the specific actions required to implement the strategies and sub-strategies of the plan. Also included are the individuals/organisations responsible for implementation.

Table 11 Implementation Plan

Strategies	Likely sub-strategies/projects	Implementation actions	Responsibility
To review and implement the domestic marketing plan	◗ Point of sale market development ◗ Public relations and media ◗ Domestic market research ◗ Homescan Data collection	◗ HAL Marketing Manager (MM) will develop a domestic marketing plan and annual plan with ALGA and IAC input. ◗ MM will assess potential marketing service providers and make recommendations to the IAC in relation to preferred providers. ◗ MM will provide ongoing management of the annual levy funded marketing campaign. ◗ Further detail on marketing actions to be provided in domestic marketing plan	◗ **MM** ◗ **IAC** ◗ **ALGA**
To improve retail quality, presentation and appearance	◗ Retailer support and evaluation activities to support the introduction of the plastic lid box ◗ Retailer and supply chain consultation to identify supply chain quality and appearance issues	◗ The HAL MM and Industry Services Manager (ISM) will assist industry in developing project descriptions to address retail quality, presentation and appearance with consultation with the IAC. These priorities will be placed in the HAL Project Call. ◗ The relevant R&D portfolio managers will assess potential service providers and make recommendations to the IAC in relation to a preferred provider. ◗ HAL will provide ongoing management of the projects.	◗ **MM** ◗ **ISM** ◗ **ALGA/IAC** ◗ **R&D Portfolio managers**

Strategies	Likely sub-strategies/projects	Implementation actions	Responsibility
To review and implement the Export Development Plan	◗ Review of EDP ◗ Trade delegations to China and US ◗ Ongoing contact with Biosecurity Australia ◗ Provision of domestic PR and POS marketing material to importers and trade publications ◗ Ongoing liaison with major importers	◗ MM, ISM and IAC to ensure the EDP is reviewed annually by industry ◗ Trade delegation projects are identified as an industry priority and placed in the HAL Project Call. ALGA to provide candidates for trade delegations. ◗ ALGA to manage ongoing contact with Biosecurity Australia ◗ Further actions outlined in the EDP	◗ **ISM** ◗ **IAC** ◗ **ALGA**
To evaluate new lychee varieties, supplied by CSIRO and currently being trialled by ALGA, as well as varieties introduced from overseas	◗ Continued funding for project 'Improving fruit yields in lychee' LY10000	◗ 'Improving fruit yields in lychee' LY10000 managed by HAL ◗ ALGA to work with service provider to evaluate varieties.	◗ **HAL R&D Portfolio manager** ◗ **ALGA**
To improve lychee production practices via IPM	◗ Fruit spotting bug research and communication ◗ Minor use permits for the lychee industry ◗ Ongoing development and communication of the IPM strategy	◗ HAL to continue to manage current fruit spotting bug research and minor use permit projects. ◗ Communication of project results to industry via Industry Annual Report, Annual Levy Papers Meeting, Living Lychee and industry field days.	◗ **HAL** ◗ **ISM** ◗ **IAC** ◗ **ALGA**
To improve production	◗ Research to reduce fruit drop	◗ Continued funding for project 'Improving fruit yields in lychee' LY10000 including research to reduce	◗ **HAL**

Strategies	Likely sub-strategies/projects	Implementation actions	Responsibility
efficiencies	◗ Consideration of potential for etheryl use to remove unwanted autumn flush and improve. flowering	fruit drop and etheryl use to remove unwanted autumn flush and improve flowering.	◗ **ISM** ◗ **IAC** ◗ **ABGC**
To improve leadership, strategic and succession planning within the lychee industry	◗ Development and implementation of an industry succession plan ◗ Development of secretariat protocols manual for the ALGA executive officer ◗ Facilitation of ALGA executive members attending HAL forums and other industry events ◗ Renew current strategic plan after 2017	◗ ALGA to draft an industry succession plan and communicate to industry stakeholders. ◗ ALGA to develop a secretariat protocols manual for the executive officer. ALGA to organise for executive members to attend HAL forums. ◗ ALGA and ISM to organise for the strategic plan to be renewed in 2017.	◗ **ISM** ◗ **ALGA**
To maintain quality industry communications	◗ Living Lychee magazine ◗ Grower events including Queensland DAFFQ workshops ◗ Industry conference (possible) ◗ Industry Annual Report ◗ Consultation Funding Agreement	◗ Continued funding and support for the Industry Annual Report and Consultation Funding Agreement projects. ◗ ALGA and the IAC ensure there is continued funding interesting and relevant content to the Living Lychee magazine. ◗ ALGA to liaise with Queensland DAFFQ, to organise appropriate grower events, and potentially an industry conference (if deemed appropriate).	◗ **ISM** ◗ **IAC** ◗ **ALGA** ◗ **Queensland DAFFQ**

Appendix B

Indicative budget

An indicative 5 year budget (Table 12) was established based on the estimated revenue, non-project and project costs. The budget takes into account forward commitments for ongoing projects, and estimates costs for new (non-allocated) projects.

The indicative budget is provided as a guide only, and more detailed annual budgets will be provided in the industry's annual report.

Table 12 Indicative 5 year budget

Lychee SIP Budget			2013/14	2014/2015	2015/2016	2016/2017	2017/2018	TOTAL	
	PRODUCTION	Leviable Production forecast (t)	2,000	2,000	2,000	2,000	2,000	10,000	
	REVENUE								
		R&D (levy + gov contribution)	$ 219,807	$ 209,655	$ 209,749	$ 208,425	$ 208,392		
		Marketing (levy)	$ 50,566	$ 50,566	$ 50,566	$ 50,566	$ 50,566		
		Other	$ 2,172	$ 2,172	$ 2,172	$ 2,172	$ 2,172		
		TOTAL REVENUE	$ 272,545	$ 262,393	$ 262,487	$ 261,163	$ 261,130	$ 1,319,718	
	NON PROJECT COSTS								
		Levy collection costs R&D	$ 9,912	$ 10,209	$ 10,516	$ 10,831	$ 11,156		
		Levy collection costs Marketing	$ 4,502	$ 4,637	$ 4,776	$ 4,920	$ 5,067		
		Corporate cost recovery-Levies R&	$ 24,022	$ 21,740	$ 21,691	$ 21,195	$ 21,188		
		Corporate cost recovery-Levies M	$ 5,783	$ 5,565	$ 5,225	$ 5,131	$ 4,916		
		Across Industry Contribution-Levy	$ 4,006	$ 3,648	$ 3,702	$ 3,795	$ 3,795		
		TOTAL NON PROJECT COSTS	$ 48,225	$ 45,800	$ 45,910	$ 45,872	$ 46,121	$ 231,928	
	PROJECT COSTS								
Objective	**Strategy**	**Sub-strategies/projects**	**2013/14**	**2014/2015**	**2015/2016**	**2016/2017**	**2017/2018**	**TOTAL**	**Notes on non-allocated funding**
1. Demand	Domestic Marketing	PR, point of sale, market research	$ 50,318	$ 48,627	$ 45,946	$ 45,274	$ 43,613	$ 233,778	
1. Demand	Improve Retail Quality	Retail support and evaluation for plastic box roll out, identification of supply chain issues	20,000	20,000	20,000	20,000	20,000	$ 100,000	$20,000 per year for retail support activities
1. Demand	Export Development Plan	Trade delegations, marketing, OHMA support	$ 12,400	$ 13,200	$ 10,000	$ 10,000	$ 10,000	$ 55,600	$10,000 per year for trade delegations and other market development activities
2. Production	Variety Evaluation	Improving fruit yields in Lychee	$ 48,988	$ 40,388	$ 26,039	$ 10,000	$ 10,000	$ 135,415	$10,000 per year in years 4&5 to provide communication and extension of new varieties
2. Production	Integrated Pest Management	Minor use permits, fruit spotting research, finalisationa and communication of Agrilink	$ 18,148	$ 8,148	$ 13,704	$ 13,704	$ 13,704	$ 67,408	$10,000 in year 1 to finalise and communicate agrilink production manual
2. Production	Production efficiencies	May include fruit drop research, etheryl and other cost of production research	15,000	15,000	15,000	15,000	15,000	$ 75,000	$15,000 per year for research activities
3. Operating environment	Leadership, strategy and succession	Strategic planning, succession planning, attendance at HAL forums	2,000	2,000	2,000	2,000	27,000	$ 35,000	$2,000 per year for leadership and succession planning activities, $25,000 in year 5 to develop new SIP
3. Operating environment	Communications	Living lychee magazine, grower events and workshops, annual report, consultation agreement	$ 66,196.40	$ 67,882.29	$ 69,618.76	$ 71,407.32	$ 73,249.54	$ 348,354	$10,000 per year for grower events and workshops
		TOTAL PROJECT COSTS	$ 233,050	$ 215,246	$ 202,308	$ 187,386	$ 212,566	$ 1,050,556	
		Balance	$ (8,730)	$ 1,347	$ 14,269	$ 27,905	$ 2,443	$ 37,234	

Figure 3 and Figure 4 below show the proportion of project funding allocated by Objective and Strategy, respectively. Figure 5 shows budget expenditure by Federal Government rural R&D priorities.

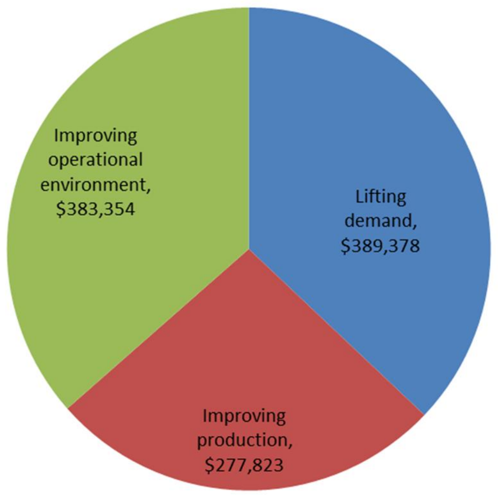

Figure 3 Budget expenditure by Objective

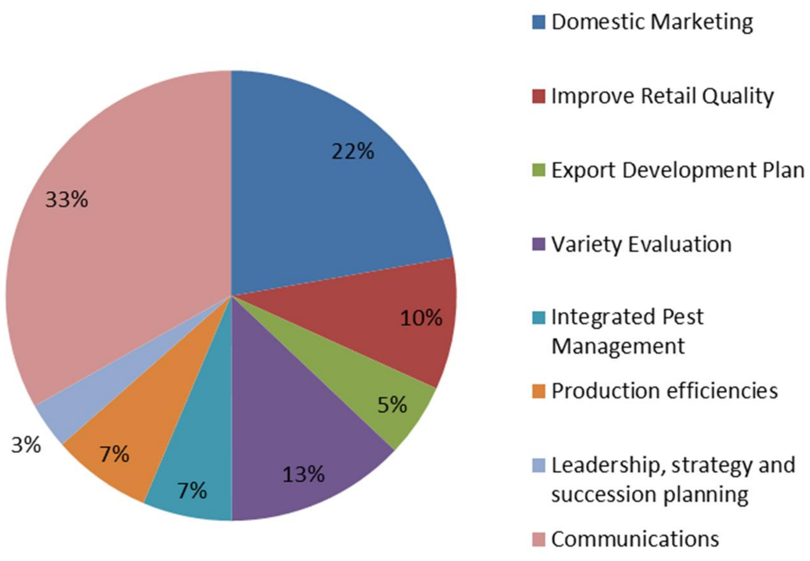

Figure 4 Budget expenditure by Strategy

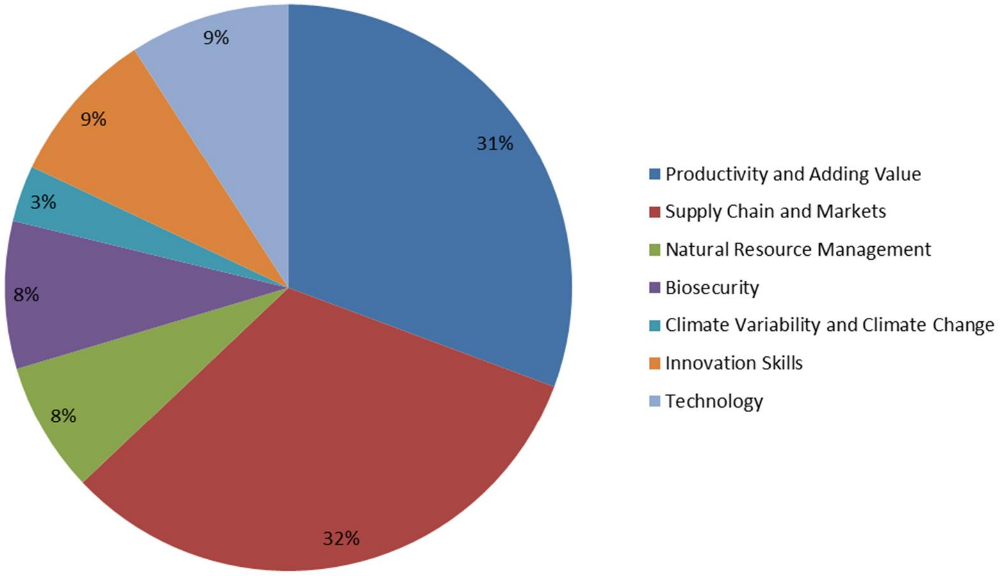

Figure 5 Budget expenditure by Federal Government rural R&D priorities

Appendix C

Benefit Cost Analysis

Table 13 BCA calculations and assumptions

Benefit/Cost Analysis	Domestic marketing	Retail quality improvement	Export Development	Variety evaluation	IPM and minor use permits	Production efficiency research	Leadership, strategy and succession planning	Industry communications
What percent of the industry production base is affected by the proposed investment	100%	100%	100%	20%	100%	100%	100%	100%
What is the change in producer profit expected (cents per kg)	25	10	35	20	15	10	5	8
What is the probability of investment success	70%	80%	60%	50%	80%	70%	80%	60%
What is the lag period before producers receive the benefit (years)	0	0	0	10	0	0	1	0.5
What is the length of time before the benefit decays (years)	0.5	1	8	20	7	10	6	3
What investment is required by HAL	$233,778	$100,000	$55,600	$135,415	$67,408	$75,000	$35,000	$348,354
Cost/year	$46,756	$20,000	$11,120	$27,083	$13,482	$15,000	$7,000	$69,671
Benefit/year	$175,000	$160,000	$3,360,000	$240,000	$1,680,000	$1,400,000	$446,400	$277,920
BCR	3.7	8.0	302.2	8.9	124.6	93.3	63.8	4.0
Breakeven BCR	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Assumptions and explanations

Production per year (Kg)	2,000,000
Farm Gate price	$5
Discount Rate	7%

	Domestic marketing	Retail quality improvement	Export Development	Variety evaluation	IPM and minor use permits	Production efficiency research	Leadership and succession planning	Industry communications
What percent of the industry production base is affected by the proposed investment	Lifting domestic demand will benefit prices across all markets	Lifting domestic demand will benefit prices across all markets	Lifting export demand will benefit prices across all markets	There will be a 20% uptake of new varieties	Potential to benefit whole industry	Potential to benefit whole industry	Potential to benefit whole industry	Potential to benefit whole industry
What is the change in producer profit expected (cents per kg)	Best estimate based on similar campaigns	Best estimate based on similar campaigns	Best estimate based on similar trade development and theoretical impact from gaining access to Chinese market	Best estimate based on potential production and quality improvements in new varieties	Best estimate based on fruit spotting bug impact and maintenance of minor use permits	Best estimate based on reduced fruit dropping	Best estimate based on ensuring strategic planning is completed and delivering stronger industry unity	Best estimate based on the value of industry publications and workshops
What is the probability of investment success	70% chance that domestic marketing investments will be successful	80% chance that retail quality improvement investments will be successful	60% chance that export development activities will be successful	50% chance that new varieties will prove to be commercially viable	80% chance that fruit spotting bug research and minor use permit maintenance will be successful	70% chance that production efficiencies including reduced fruit dropping will be achieved	80% chance that new leaders will be identified and participate in ALGA and/or IAC	60% of growers adopting improved management practices
What is the lag period before producers receive the benefit (years)	immediate impact	immediate impact	immediate impact	5 years before varieties are available plus additional 5 years until trees reach production	immediate impact	immediate impact	1 year lag before investments (succession planning and leadership development) yield results	6 month lag before investments (Living Lychee, grower events) yield results
What is the length of time before the benefit decays (years)	Domestic marketing effective for 6 months	Improved retailer knowledge and supply chain issues will last for average one year (retail staff change over will necessitate ongoing investment)	Export development effective for average 8 years.	New varieties will be available for average 20 years	Minor use permits last 3 to 4 years and trial work for an MRL potentially much longer, depending on use patterns	R&D effective for average 10 years	Industry leaders remain involved for average 6 years	Communicated information beneficial to growers for average 3 years

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