



Dried Grapes Strategic Investment Plan 2012 to 2017

August 2013

Australian Dried Grape Industry Strategic Investment Plan - Executive Summary

MISSION

"A sustainable horticultural industry consistently supplying superior quality dried vine fruit to consumers"

VISION

"To restore a production base which is capable of supporting efficient growers and servicing local processors and niche markets with quality differentiated Australian fruit"

2012-17 R&D Objectives & Strategies

OBJECTIVE 1

Improved efficiency & sustainability (costs & risks)

OBJECTIVE 2

Increase product value (quality & price)

OBJECTIVE 3

Provide a supportive operating environment (skills & communication)

STRATEGY 1.1

Increase total dried grape production &/or number of dried grape producers

STRATEGY 1.2

Increase selection of high yielding, disease resistant dried grape varieties commercially available to Australian producers

STRATEGY 1.3

Support sustainable dried grape production

STRATEGY 2.1

Enhance Australian dried grape product globally through market research & promotion

STRATEGY 2.2

Identify selections that differentiate premium Australian product on the global market

STRATEGY 2.3

Promote food safety practices across the dried grape supply chain

STRATEGY 3.1

Enhance skills & capacity to support current & future industry needs

STRATEGY 3.2

Develop & deliver effective R&D programs that support the Strategic Investment Plan

STRATEGY 3.3

Facilitate two-way flow of information across the dried grape supply chain

Dried Grape SIP Allocations by Strategy

2012/13 2013/14 2014/15 2015/16 2016/17

LEVY REVENUE

R&D Levy Income (matched)	\$330,000	\$352,000	\$418,000	\$462,000	\$550,000	\$2,112,000
Marketing Levy Income	\$98,000	\$112,000	\$133,000	\$147,000	\$175,000	\$665,000
Total Levy Revenue	\$428,000	\$464,000	\$551,000	\$609,000	\$725,000	\$2,777,000
R&D Levy	\$470,170	\$224,722	\$166,140	\$78,130	\$118,375	
<i>R&D Levy Available</i>	<i>\$12,000</i>	<i>\$96,000</i>	<i>\$205,000</i>	<i>\$332,000</i>	<i>\$370,000</i>	
R&D TOTAL	\$482,170	\$320,722	\$371,140	\$410,130	\$488,375	
Marketing Levy	\$255,700	\$25,000	\$0	\$0	\$0	
<i>Marketing Levy Available</i>	<i>\$133,000</i>	<i>\$133,000</i>	<i>\$133,000</i>	<i>\$137,000</i>	<i>\$147,000</i>	
Marketing TOTAL	\$388,700	\$158,000	\$133,000	\$137,000	\$147,000	
TOTAL SIP Funding	\$870,870	\$478,722	\$504,140	\$547,130	\$635,375	

Project Code	Title	Funding Source	Program Status	2012/13	2013/14	2014/15	2015/16	2016/17	Priority	
OBJECTIVE 1. Improved efficiency & sustainability (costs & risks)										
Strategy 1.1 - Increase total dried grape production &/or number of dried grape producers										
DG11003	Updated assessment of the viability of dried grape production under varying scenarios, incorporating generational change	R&D	CONTRACTED	3,680				3,680	1	
Project 1/1	Updated assessment of the viability of dried grape production under varying scenarios, incorporating generational change	R&D	PROPOSED			15,000	15,000	15,000	45,000	1
Project 2/1	Co-ordinated programs & economic forums aimed to promote industry to existing & new entrants (increase production / plantings)	(IDO)		0	0	0	0	0	0	1
DG10002	Skills development programs for current & future dried grape producers	(IDO)	CONTRACTED	0	0	0	0	0	0	1
DG09000	Enhanced dried grapes types for the Australian industry	R&D	CONTRACTED		0	0	0	0	0	1
DG12004	Evaluation trials for the dried vine fruit industry	R&D	PROPOSED	0	0	0	0	0	0	1
Project 3/1	Develop industry process to handle generational change, skills development etc \$25,000 over 5 years	R&D	PROPOSED	0	0	40,000	40,000	45,000	125,000	2
DG09002	Managing fruit set and bunch shatter in Sunmuscat	R&D	CONTRACTED	81,120	0	0	0	0	81,120	1
Project 5/1	Managing fruit set and bunch shatter in Sunmuscat (continuation)	R&D	PROPOSED			30,000	30,000		60,000	1
TOTAL STRATEGY 1.1 EXPENDITURE				84,800	0	85,000	85,000	60,000	254,800	
Strategy 1.2 - Increase selection of high yielding, disease resistant dried grape varieties commercially available to dried grape producers										
DG09000	Enhanced dried grapes types for the Australian industry	R&D	CONTRACTED	101,290	0	0	0	0	101,290	1
DG06005	Rootstock breeding and development for Australian dried grapes	R&D	CONTRACTED	20,340	0	0	0	0	20,340	2
DG13000	New rootstocks to improve production and water use efficiency, sustainability and reduce risks of dried grape production	External	ENDORSED		95,000	71,000	75,000	78,500	319,500	2
DG12004	Evaluation of scion material for the dried vine fruit industry	R&D	PROPOSED	63,500	100,200	80,000	69,700		313,400	1
Project 1/3	Transition program with the CSIRO, in collaboration with other horticultural sectors, to ensure a process for ongoing evaluation of vines is in place following the withdrawal of CSIRO from dried grape research and development. \$0	External	Gap	0	0	0	0	0	0	2
Project 4/3	Formalise intellectual property rights and royalty arrangements with a new plant breeder for the future commercialisation of dried grape varieties	DFA		0	0	0	0	0	0	3
Project 5/3	Assess the importance of new arrangements in vine breeding and evaluation to supersede the 'evaluation only' period of the next few years (tied to 1). \$20,000	External	PROPOSED	0	10,000	10,000			20,000	2

Project 6/3	Monitor benefits of GM technology market reactions	External	PROPOSED	0	0	0	0	0	0	2
DG10002	Provide advice on varieties available to producers**	(IDO)	CONTRACTED	0	0	0	0	0	0	1
	Collaboration with International breeders to identify suitable selections	DFA		0	0	0	0	0	0	1
TOTAL STRATEGY 1.2 EXPENDITURE				185,130	205,200	161,000	144,700	78,500	774,530	
Strategy 1.3 - Support sustainable dried grape production										
Project 4/1	Suite of programs to increase further automation etc. **seek innovation, new technology to reduce labour and input costs	R&D	PROPOSED			33,000	33,000	34,000	100,000	2
Project 1/4	Continue, or re-design, an optimum irrigation project, using regulated irrigation variations over several years. \$50,000	R&D	Gap			0	0	0	0	3
Project 2/4	Conduct a research project on practical viticultural options that will achieve equivalent or more yields with optimum energy, fertiliser and other production inputs.	R&D	PROPOSED			160,000	160,000	160,000	480,000	2
DG10002	Industry best practice advice towards vine trellis systems, bunch shatter and pruning techniques etc	(IDO)							0	1
Project 3/4	Adaptation to climate variability	External		0	0	0	0	0	0	2
Project 7/5	Continue to support the emergence of well managed organic and biological production systems as an option for both market differentiation and sustainable production	R&D	Gap	0	0	0	0	0	0	1
TOTAL STRATEGY 1.3 EXPENDITURE				0	0	193,000	193,000	194,000	580,000	
TOTAL OBJECTIVE 1. EXPENDITURE				269930	205200	439000	422700	332500	1609330	

OBJECTIVE 2. Increase product value (quality / price)										
Strategy 2.1 - Enhance Australian dried grape product globally through market research & promotion										
Project 1/5	Assess diversification new product development options and the development of co-products inc. organics	MKT	PROPOSED			15,000	15,000	20,000	50,000	1
Project 2/5	Global market research & intelligence / premium niche and emerging markets	MKT	PROPOSED		20,000	20,000	20,000	20,000	80,000	3
DG12005	Dried Fruits Research Proposal	R&D	CONTRACTED	15,000					15,000	
DG10502	Generic promotions funding (joint processor market development)	External	CONTRACTED	50,000	0	0	0	0	50,000	2
Project 4/5	Attend international trade fairs, events to raise Australian profile	MKT / External	PROPOSED		10,000	10,000	10,000	10,000	40,000	3
DG10501	Annual International Dried Grape Producing Nations Conference	MKT	CONTRACTED	35,000	0	0	0	0	35,000	3
Project 5&6/5	International market intelligence, import/export trends, global crop forecasting & production performance	MKT / DFA	PROPOSED		2,000	2,000	2,000	2,000	8,000	1
TOTAL STRATEGY 2.1 EXPENDITURE				100,000	32,000	47,000	47,000	52,000	228,000	
Strategy 2.2 - Identify selections that differentiate premium Australian product on the global market										
DG09000	Enhanced dried grapes types for the Australian industry	R&D	CONTRACTED		0	0	0	0	0	1
DG12004	Evaluation trials for the dried vine fruit industry	R&D	PROPOSED	0	0	0	0	0	0	1
	Collaboration with International breeders to identify suitable selections	DFA		0	0	0	0	0	0	1
TOTAL STRATEGY 2.2 EXPENDITURE				0	0	0	0	0	0	
Strategy 2.3 - Promote food safety practices across the dried grape supply chain										
	Undertake review of current "spray diary" system and look to online or electronic systems available to producers**	(IDO)		0	0	0	0	0	0	2
	Identify food safety critical control points through the value chain	(IDO)		0	0	0	0	0	0	3
	Facilitate chemical education & certification seminars**	(IDO)		0	0	0	0	0	0	2
	Communicate chemical policy changes and impacts to producers	(IDO)		0	0	0	0	0	0	2
	Undertake analysis or SARP review of minor use permits for the dried grape industry	R&D	Gap	0	0	0	0	0	0	2
	Maintain dried grape approved supplier program**	(IDO)		0	0	0	0	0	0	2
DG10500	Quality Assurance (chemical use compliance) for Dried Fruits Industry 20010 -	MKT	Contracted	90,000					90,000	
TOTAL STRATEGY 2.3 EXPENDITURE				90,000	0	0	0	0	90,000	
TOTAL OBJECTIVE 2. EXPENDITURE				190,000	32,000	47,000	47,000	52,000	318,000	

OBJECTIVE 3. Provide a supportive operating environment (skills & communication)										
Strategy 3.1 - Enhance skills & capacity to support current & future industry needs										
MT11025	Dried fruits communications program	MKT	CONTRACTED	15,000	15,000	30,000	30,000	30,000	120,000	1
DG12003	Dried fruits industry website redevelopment, incorporating online R&D library	R&D	PROPOSED	40,000	0	0	0	0	40,000	1
DG12003	Dried fruits industry website redevelopment, incorporating online R&D library	MKT	PROPOSED	0	30,000				30,000	2
DG10501	Annual International Dried Grape Producing Nations Conference	MKT	CONTRACTED	0	0	0	0	0	0	2
DG10002	Industry development & extension activities (IDO support)	R&D	CONTRACTED	80,000	61,667				141,667	1
DG10002	Industry development & extension activities (IDO support)/ DG13001 continue	VC	CONTRACTED	69,214	3,710				72,924	1
DG13001	Dried Grape Industry Development Project	R&D	PROPOSED	60,500	100,000	100,000	39,500		300,000	1
DG13001	Dried Grape Industry Development Project	VC	PROPOSED	25,297	47,080	50,418	23,782		146,577	1
	Annual survey of levy payers & industry stakeholders	(IDO)	CONTRACTED	0	0	0	0	0	0	1
DG12800	Industry R&D Annual Report	R&D	CONTRACTED	2,960					2,960	2
DG13800	Industry R&D Annual Report	R&D	CONTRACTED/New		2,963	3,300	3,400	3,500	13,163	2
TOTAL STRATEGY 3.1 EXPENDITURE				167,174	239,137	180,380	183,818	96,782	867,291	
Strategy 3.2 - Develop & deliver effective R&D programs that support the Strategic Investment Plan 2012-17										
DG10000	Dried Grape Industry Strategic Investment Plan 2011-2016	R&D	CONTRACTED	10,400	0	0	0	0	10,400	1
DG12910	Annual Dried Grape Consultation Funding Agreement	MKT	CONTRACTED	45,700					45,700	1
DG13910	Annual Dried Grape Consultation Funding Agreement	MKT	PROPOSED		49,200	45,700	45,000	45,000	184,900	1
TOTAL STRATEGY 3.2 EXPENDITURE				56,100	0	0	0	0	56,100	
Strategy 3.3 - Facilitate two-way flow of information across the dried grape supply chain										
	Collection & dissemination of industry statistics (Export Efficiency Powers)	HAL		0	0	0	0	0	0	2
	Annual Dried Fruits Australia Conference	DFA		0	0	0	0	0	0	1
DG10501	Annual International Dried Grape Producing Nations Conference	MKT	CONTRACTED	0	0	0	0	0	0	1
MT11025	Dried fruits communications program	MKT	CONTRACTED	15,000	15,000	15,000	0	0	45,000	1
TOTAL STRATEGY 3.3 EXPENDITURE				15,000	15,000	15,000	0	0	45,000	
TOTAL OBJECTIVE 3. EXPENDITURE				238274	254137	195380	183818.08	96782.25	968391.33	

TOTAL SIP EXPENDITURE	698,204	491,337	681,380	653,518	481,282	2,895,721
TOTAL R&D Expenditure	378,290	311,130	486,600	481,100	330,500	1,877,620
TOTAL VC Expenditure	119,214	39,007	57,080	50,418	23,782	289,501
TOTAL Mkt Expenditure	200,700	141,200	137,700	122,000	127,000	728,600

DRIED FRUITS AUSTRALIA



**Dried Grapes
Strategic
Investment Plan
2012 to 2016
Final Draft**

March 2012

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EXECUTIVE SUMMARY

E1 Overview of the Australian Dried Grape Industry

- In the mid-twentieth century, dried grape products were one of Australia's foremost horticultural exports. This world competitive industry has gradually lost a considerable proportion of production capacity through:
 - Growers diversifying into other products (table grapes, wine grapes, citrus, nuts, etc)
 - Growers leaving horticultural production entirely, due to poor returns, age or taking up a property buyout or restructuring opportunity.

However, the outlook over the next five years is very positive. There are shortages in world supply, demand is strong and prices are at a level which can support viable production and processing operations.

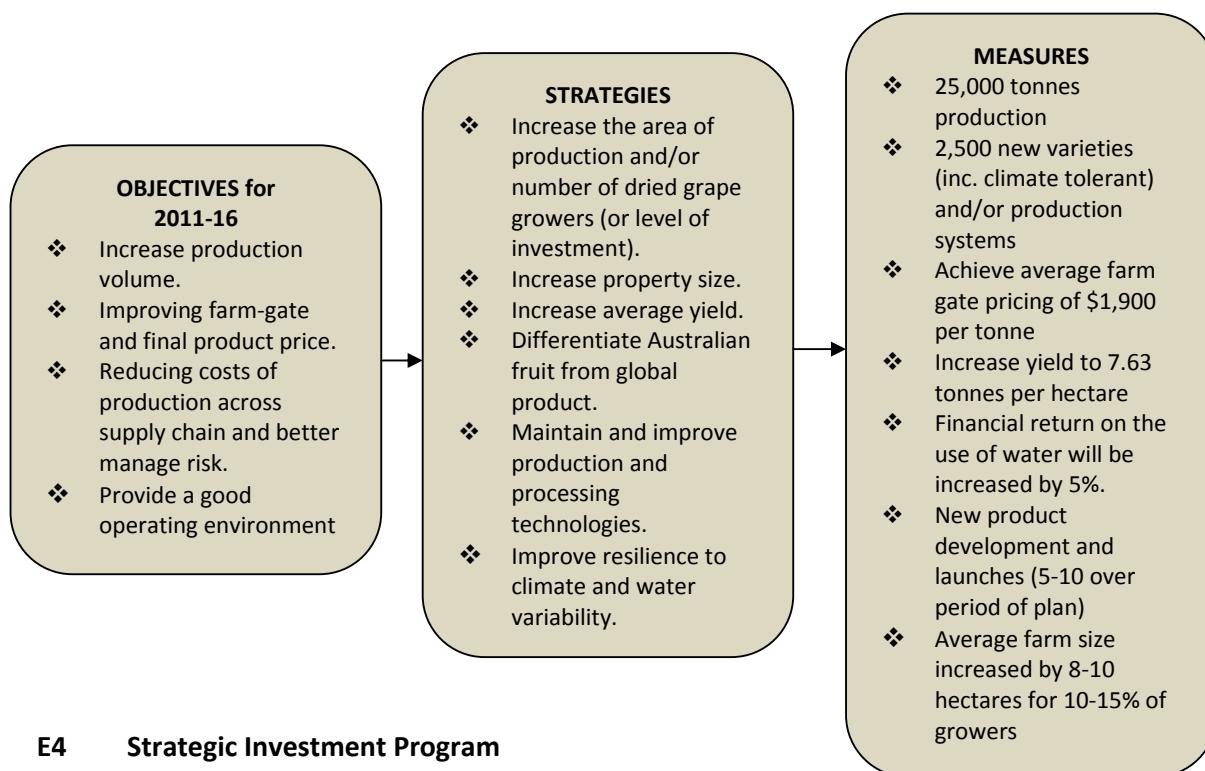
- Australia's dried grape industry is highly effective in quality, mechanisation and productivity. It utilises superior fresh grape product to commence the drying process with a reputation for nil to very low chemical residues, a healthy and skilled workforce and innovative producers.
- Dried grape varieties, sultana in particular, are variable in fruitfulness and prone to disease and rain damage in years of adverse weather (such as experienced in 2010-11). Volatility of production relates not only to quantity produced but also to the quality of fruit. Rain, pest and disease damage prior to harvest and poor drying weather post harvest all reduce product quality. Climate scientists warn that the frequency and incidences of both droughts and floods will increase in coming years.

E2 Key Issues Impacting on the Five Year Outlook

- Dried grapes remain a world commodity, with severe limitations on opportunities to set prices reflecting product quality or other differentiation.
- Australia's biggest problem in the past five years has not been the vagaries of world pricing. More critical has been an ability to produce sufficient quantities of fruit to take advantage of satisfactory prices.
- Drought conditions throughout the early 2000s placed new and unprecedented restrictions on water (even for growers with 'secure' water rights) and many growers chose to use available water simply to keep vines alive, without focusing on a commercial return. In addition, many smaller growers took the opportunity offered by government buyout schemes to leave the industry, in many cases leaving a discontinuous distribution of dried grape production properties. The final outcome of the Murray Darling Basin Plan will make an impact on future water allocation to the industry in the future.
- Australian based processors are under pressure from the lack of throughput. They have debt and operating expenses which are not being met by the throughput of dried grapes over the past few seasons. The recent failure of Clyne Foods has demonstrated this pressure and raised further concerns over retaining processing plants in Australia.
- The recent closure of CSIRO Merbein and the end of CSIRO involvement in breeding and evaluation of new varieties and rootstocks means the dried grape industry now will have a direct responsibility for future vine breeding and evaluation, which has historically an important component of research and development in the industry.

- There are difficulties facing wine grape growers, potentially creating opportunities for new dried grapes investment.
- There is likely to be a continuing focus on light fruit production in order to achieve product differentiation in the market place and industry field trials looking at production of light fruit and speed of drying using covers to minimise adverse impacts from rain events during harvest.
- Recent inability to produce enough product to meet normal demand has taken some longer term needs off the immediate 'investment agenda'. These include:
 - Differentiating Australian product in the domestic market from inferior imported options
 - Establishing value added products
 - Developing innovative approaches to domestic and export marketing
 - Embarking on new partnership initiatives between growers and processors (perhaps through the DFA as a commercial venture partner).

E3 Objectives, Strategies and Measures



E4 Strategic Investment Program

The investment plan strategies have led to the formulation of five research and development investment programs for the Dried Grapes industry over the next five years:

- Program 1: Attraction of new investment and new growers at an efficient and viable scale of operation, resulting in an increase in average size of dried grape producing properties
- Program 2: Introduction and adoption of new production and viticultural technologies
- Program 3: Vine improvement and commercialisation
- Program 4: Water usage and climate response research
- Program 5: Marketing and promotional activities

1. THE DRIED GRAPE INDUSTRY IN PERSPECTIVE

1.1 Dried Grape Products

- Healthy, natural dried grapes production is centred on the Mildura/Sunraysia region of Victoria and New South Wales (about 95% of national production is in this region). Major varieties grown for dried grapes are Sultanas, Currants, Raisins and Sunmuscats.
- Typically sultanas comprise 75% to 80% of total production, followed by currants (around 9%) and raisins (approximately 5%) with smaller quantities of new or alternate varieties (such as sunmuscats, flame seedless and the newly released sunglo).
- In the mid-twentieth century, dried grape products were one of Australia's foremost horticultural exports. Over the past few decades, this world competitive industry has lost a considerable proportion of its production capacity through:
 - Growers diversifying into other products (table grapes, wine grapes, citrus, nuts, etc)
 - Growers leaving horticultural production entirely, due to poor returns, age or taking up a property buyout or restructuring opportunity.

1.2 Production Trends

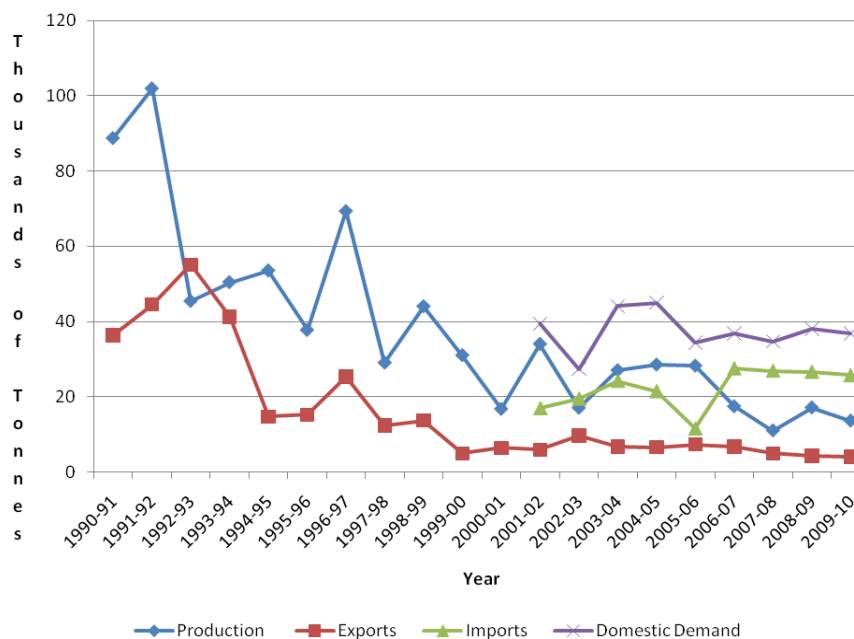
- Australian dried fruit industry is among the world's most effective in terms of, product quality, highly efficient mechanised production systems, high health status planting material, highly productive rootstock and varietal combinations, a comparatively low disease pressure growing environment, inherently superior fresh grape product to commence the drying process with a reputation for nil to very low chemical residues, a healthy and skilled workforce and innovative producers¹.
- There are now approximately 400 dried grape producer enterprises engaged in growing and drying sultanas, currants, and raisins. The majority of these enterprises also produce other horticultural products to supplement their dried grape earnings.
- Production of dried grapes in Australia has been on a downward trend since the 1980s. Total production in 2010-11 was 7,500 tonnes², having dropped from a peak of 109,600 tonnes in 1964-65. Exports peaked at 72,600 tonnes in 1972-73.
- Conversely, imports have shown an upward trend since the start of the 1990's. Imports exceeded domestic production for the first time in 2002-03 and, since 2006-07 have outstripped locally produced fruit each year.
- Typical production characteristics and cost structures for growers in the 2000's show that labour for picking and contractors is typically the largest component of operating costs at 19% (for median) and 34% (for top 25 percentile growers). These cost structures also show that few growers generate a positive return on capital, with the average rate of return for growers in the top 25 percentile being only 1%.

¹ Dried Grape Annual Report 2007-08

² The 2010/11 year yield was dramatically reduced by adverse rainfall and other climate induced events.

- On average, over the last 10 years, 70% of Australian dried grape fruit has been consumed domestically and 30% has been exported. However, over the same period, Australian production has only averaged 53% of the domestic consumption, and has only satisfied 46% of domestic demand (with 54% met by imports).
- The Australian dried fruits producers are made up of many nationalities. Many are now Australians with a multi-generational history in the industry and many retain cultural links from Mediterranean and Balkan countries (particularly Greece, Italy, Turkey, Serbia and Croatia) and more recently from India. This diversity has given giving the Sunraysia region, in particular, a rich cultural blend of food, customs and events.

Figure 1.1 Production, Import and Export Trends

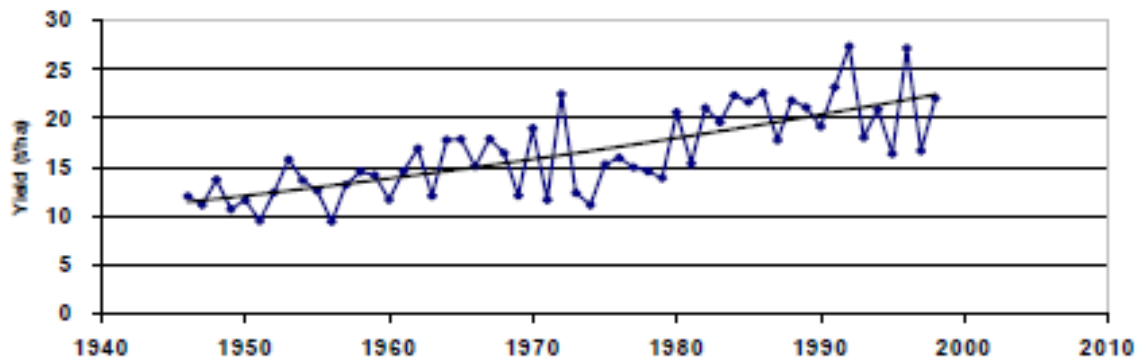


1.3 Industry Challenges

- The area dedicated to dried grape production was relatively stable until the early 1990's when it began to decline as wine varietals replaced sultana as the preferred grapevine variety for replanting. A combination of large diversions to the wine industry since the mid 1990's and the impact of drought and land/water right buy-outs, combined with the unprecedented crop failure in the most recent year from rain, has led to the alarming drop in dried grape production from 102,000 tonnes in 1992 to just 7,500 tonnes in 2011.
- Unfortunately, the reduction in productive capacity has had its greatest impact at a time when world production is also reduced, farm gate prices are at a relative high, and the rewards from decades of research, technological improvement and best practice farm management are all combining to make dried grape production an attractive option among the various horticultural investments.

- Australian producers arguably have the best available technologies and production systems in the world, having progressively improved the management of existing plantings and adopted high yielding production systems for new plantings. Figure 1.2 (sourced from the CSIRO) shows the improvement in yield from existing vineyard infrastructure, through improved irrigation, trellising, plant material and pest and disease management.

Figure 1.2 Trends in Yields of Sultanas for Drying (Fresh Tonnes)

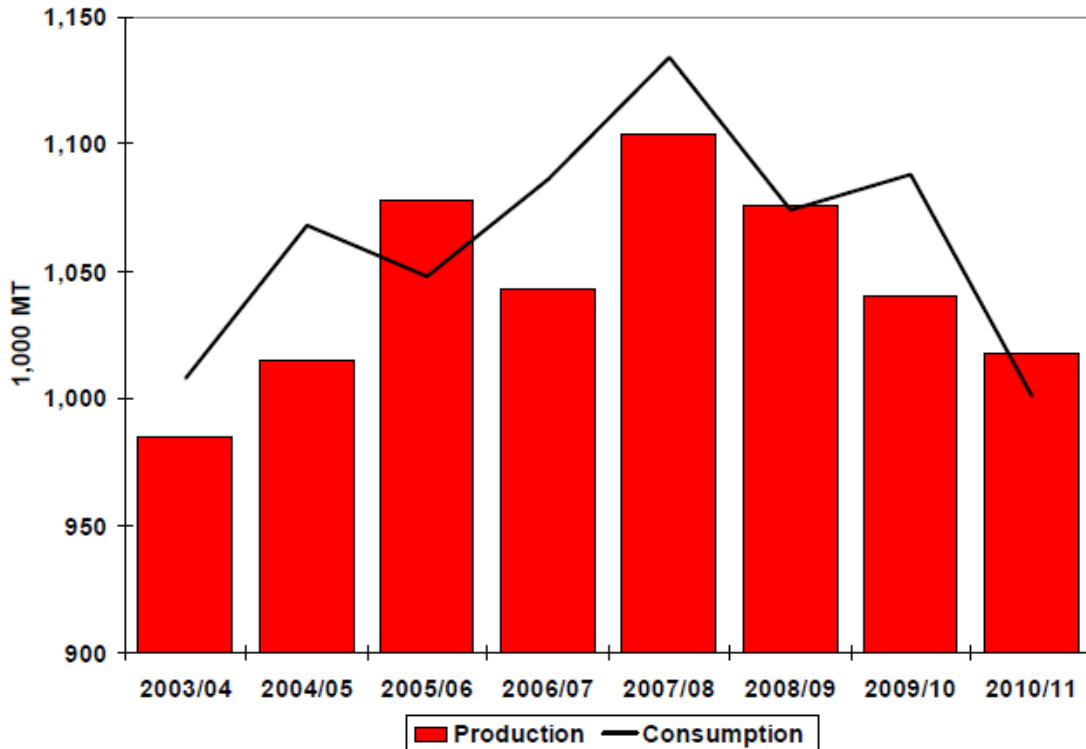


- Australian manufacturers and growers have been at the forefront in developing and implementing mechanised production systems that have both improved yields, reduced labour and reduced operational costs, although many of these benefits are accrued when 'economies of scale' are reached (and do not necessarily increase the viability of smaller growers). As a result, the new mechanisation/automation technologies have attracted larger scale green-field developments and have supported aggregation of existing properties in the more established irrigation districts (where this has not been blocked by buy-backs of land and water rights or by diversification into other horticultural products).
- Consistent with trends in other agricultural sectors throughout Australia, corporate farming enterprises and larger family or individual operators are replacing many of the traditional family farms. This is a positive direction in the dried grape sector, where small, individual properties have been a legacy from the post-world war 2 soldier settlement era, and their viability has been marginal (at best) for more than three decades.
- Many Australian older dried vine fruit blocks are below viable size. Initially, individual blocks were around 4 hectares while the indicative size for financial viability as a discrete operation is now in the order of 25 hectares. Many growers are on blocks that require a full time work load (and consequently are not readily in a position to seek off farm income) but which are below viable size.
- Collapse in wine grape prices, excess supply and a breakdown in long term supply contractual arrangements over the past few years means that there is now some potential for conversion of wine grape vineyards from wine grape varieties to drying varieties (a reverse of the trend in the 1990's and early 2000's).

1.4 World Markets and Production Trends

- Early in the 2000’s there was considerable concern among Australian growers that high levels of production in Turkey, Iran, United States of America and Chile would place ongoing downwards pressure on prices. There were near record crops in these countries in the three years up to 2007-08 leading to little or no profit margin at the prices offered to growers in Australia (and in overseas countries) over these three seasons.
- Figure 1.3³ reveals global production has been falling since 2007-08, pulling down consumption at the same time, but providing a return to viable price levels at the farm gate. Australia is not the only producing nation affected by poor weather in 2010-11:
 - The United States is forecast to be 5% lower due in part to mildew problems from cool, wet weather early in the summer and a late harvest.
 - Turkey is forecast to be down 8% due to frosts and heavy rains limiting the use of agricultural inputs such as plant protection chemicals.
 - China is forecast 20% lower due to damage from a strong windstorm in Turpin, the primary growing region.
 - Partially offsetting the losses, Iran and Chile are forecast to have 25% and 12% increases, respectively.

Figure 1.3 Global Sultana/Raisin Production and Consumption Trends



³ Sourced from the US Department of Agriculture (USDA), 2011

- Global production volatility is a major issue in processing and marketing dried grape products. Dried grape varieties, and sultana in particular, are notoriously variable in fruitfulness and they are prone to disease and rain damage in years of adverse weather such as experienced in 2010-11. The volatility of production relates not only to quantity produced but also to the quality of fruit. Rain, pest and disease damage prior to harvest and poor drying weather post harvest all reduce product quality. The incidence of rain damage has averaged 1 incident in every 5 years in the past, however climate variability is on the increase, with enormous swings in climatic conditions over recent years. Climate scientists warn that the frequency and incidences of both droughts and floods will increase in coming years. The use of trellis drying could be impacted by this climate variability, with potential for further research and development in advanced mechanised trellises to reduce berry splitting, mould and mildew.

1.5 Processing and Marketing

- There are two processors of dried grapes, Sunbeam Foods and Australian Premium Dried Fruits (APDF). A third processor, Clyne Foods was forced into receivership in late 2011. Sunbeam Foods was acquired, in majority, by a Chinese Company in late 2011, with former parent company Manassen Foods becoming a minority shareholder. Traditionally about 30% of production has been exported, 35% is targeted at food manufacture (breakfast cereals etc), and 35% at retail (dominated by Coles and Woolworths). All markets are very price competitive. Although there is a wide spectrum of arrangements with growers, contracts with growers are frequently negotiated on a 5 year turnaround, on a supply only basis. Prices offered vary by from 10% to 20% with quality of product. Sunbeam Foods has established retail branding strategies with a range of dried fruit products.
- Volatility of production impacts on the cost of processing and marketing as the fixed costs of processors and marketers are spread across fewer tonnes of product. There are three processing and marketing companies operating in Australia, all with recently installed new plant and equipment requiring a return on investment.
- Processing involves blending of fruit to maximise the overall quality grading of the pack-out. Processing to meet given customer specifications is standard practice. These customer specifications often involve modifications to industry grade standards. Most major packers have adopted quality assurance principles and are third party quality assurance accredited.

- Per capita consumption of dried vine fruit in Australia is one of the highest in the world and is three times that of any other producing nation. Approximately half the domestic fruit sales are made through retail packets whilst the other half of domestic tonnage is sold in bulk to manufacturing and institutional users. Australian dried vine fruit is processed for retail sale in domestic and export markets and as ingredients for higher value added food products. The main retail categories in which dried vine fruit is represented are:
 - dried fruit (as 100% dried vine fruit snack packs, mixed dried fruit packs, and for use as baking/cooking ingredients)
 - fruit and nut snacks
 - snack food bars and mixes
 - breakfast cereals
 - bread, buns and rolls
 - biscuits.

- The continuing acceptance of dried fruit as a health food positions it well to capitalise on the changing dietary habits of increasingly health conscious consumers. Health and “wellbeing” products are stimulating innovation in the food industry, and there is a growing worldwide trend “to healthy consumption”. Dried vine fruit has a place in this innovation. Dried grapes have a variety of vitamins and minerals, are rich in potassium and selected trace elements, are low in sodium and have moderate dietary fibre. They also have a high energy value and are rich in easily absorbed fruit sugars which have an alkaline reaction and assist in neutralising the acids formed in the body by other foods such as meats and eggs. They are also a rich source of polyphenolics.

- Strong brand identification has been a successful strategy in retaining market share against imports in retail packet sales in Australia, although the increasing availability of imports marketed under recognised food brands continues to have an impact. Even the Australian processors may need to have an ongoing program of imported fruit in order to supplement domestic supplies, so that they can retain and/or grow market share.

2. ISSUES DRIVING 2011-16 INVESTMENT IN RESEARCH AND DEVELOPMENT

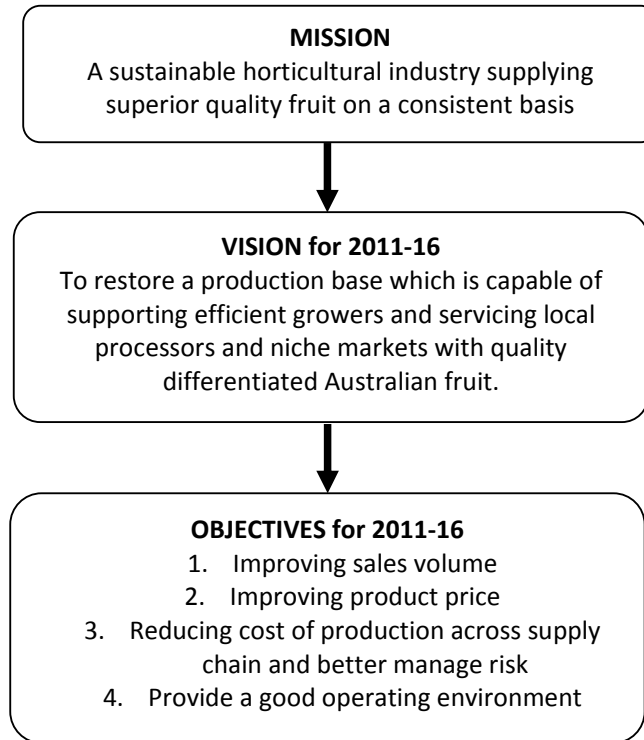
- Dried grapes remain a world commodity, with limited opportunities to set prices based on product quality or other product differentiation.
- There are differences in plant varieties and new PBR's (plant breeder rights) have been developed in some cases. However, there have been limited attempts to brand these new varieties and marginal ability to differentiate these products in the market place.
- Australia's biggest problem in the past five years has not been the vagaries of world pricing. In fact, farm gate pricing levels have been quite high by comparison with the previous decade. More critical has been an ability to produce sufficient quantities of fruit to take advantage of price peaks.
- Drought conditions placed new and unprecedented restrictions on water (even for growers with 'secure' water rights) and many growers chose to use available water simply to keep vines alive, without focusing on a commercial return. In addition, many smaller growers took the opportunity offered by government buyout schemes to leave the industry, in many cases leaving a discontinuous distribution of dried grape production properties around Sunraysia (particularly in the 'old' irrigation district).
- In the past year, too much rainfall and hail caused mould, downy mildew, rot and other problems with fruit during the summer and the final yield was much lower than it had been even during the worst of the drought and reduced water allocations.
- Australian based processors are also under pressure from the lack of throughput. They all have debt and operating expenses which are not being met by the throughput of dried grapes over the past few seasons. Clyne Foods recently failed and concerns remain over retaining processing plants in Australia.
- The Murray Darling Basin Plan will have a long term impact on water available for irrigation – shared with water available for environmental flows.
- The recent closure of CSIRO Merbein and the end of CSIRO involvement in breeding and evaluation of new varieties and rootstocks (with the dried grape industry now having to decide on its future requirements in terms of vine breeding and evaluation, which has historically been a high research priority).
- The future arrangements for evaluation of germplasm/new varieties (being transferred by CSIRO to Koorlong) will not be simple; nor will the undertaking of commercialisation for new varieties.
- Difficulties facing wine grape growers and resultant opportunities for dried grapes
- Approaches and strategies for the launch/release of new dried grape varieties.
- Using marketing levies in promotion and marketing of Australian product as well as the gathering of market intelligence.
- The continuing move towards mechanisation using latest technologies, including advanced trellis systems, drip irrigation and new varieties.

- The continuing focus on light fruit production in order to achieve product differentiation in the market place and industry field trials looking at production of light fruit and speed of drying using covers to minimize adverse impacts from rain events during harvest.
- The recent inability to produce enough product to meet normal demand has meant that some longer term needs have been taken off the 'investment agenda'. These include:
 - Differentiating Australian product in the domestic market from inferior imported options
 - Establishing value added products
 - Developing innovative approaches to domestic and export marketing
 - Embarking on new partnership initiatives between growers and processors (perhaps through the DFA as a commercial venture partner).

3. OBJECTIVES AND STRATEGIES

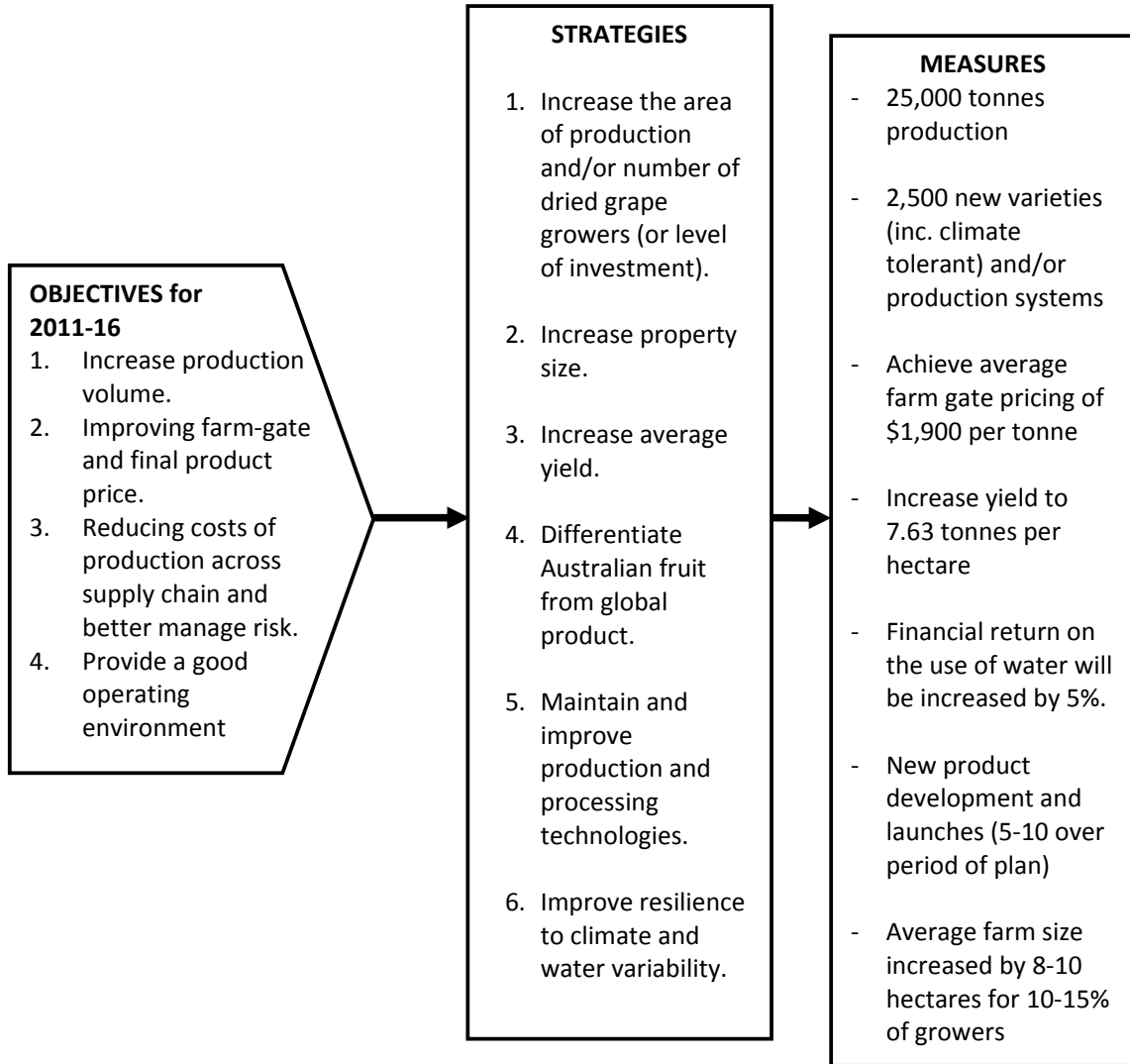
3.1 Mission, Vision and Objectives

The mission vision and five year objectives are:



3.2 Linking Objectives, Strategies and Programs

Associated strategies and measures by which the achievement of the Dried Grape Industry's five year objectives will be assessed are:



The investment plan strategies have led to the formulation of five research and development investment programs for the Dried Grapes industry over the next five years, namely

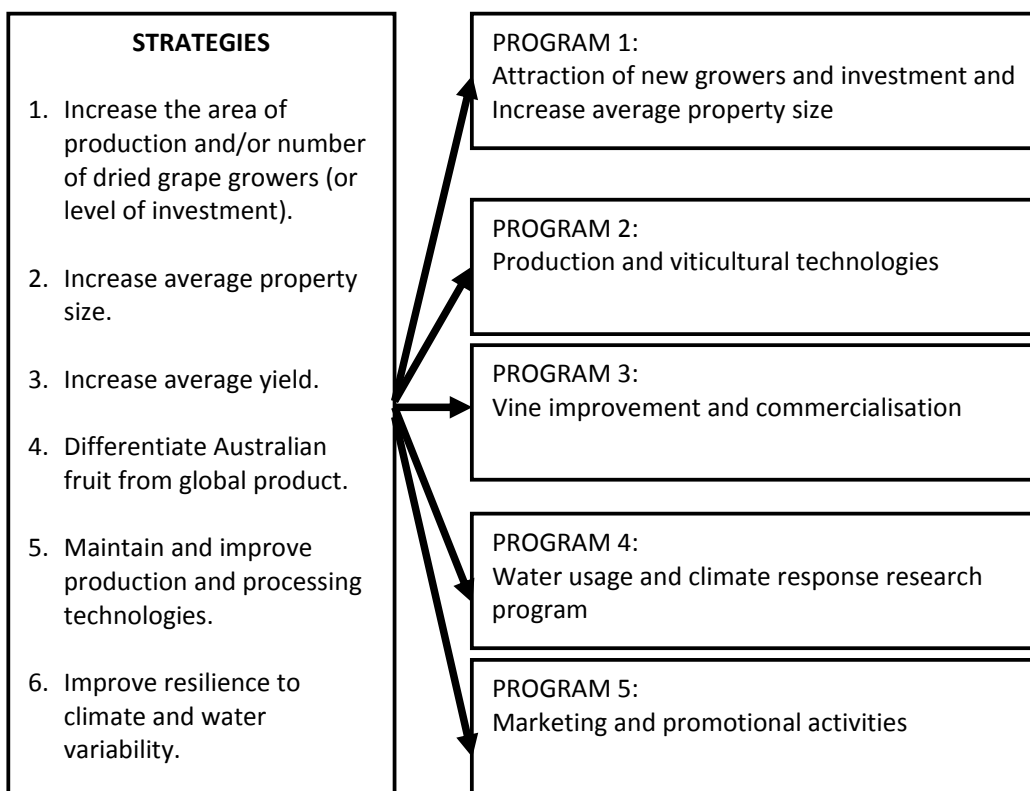
Program 1: Attraction of new investment and new growers at an efficient and viable scale of operation, resulting in an increase in average size of dried grape producing properties

Program 2: Introduction and adoption of new production and viticultural technologies

Program 3: Vine improvement and commercialisation

Program 4: Water usage and climate response research

Program 5: Marketing and promotional activities



4. STRATEGIC INVESTMENT PROJECTS AND WORK PLAN

4.1 Proposed Projects and Initiatives

4.1.1 Programs 1 and 2: Attraction of new investment and new growers and adoption of new production and viticultural technologies.

- Project 1: Updated assessment of viability of dried grape production under varying scenarios
- Project 2: Promote industry to new entrants through coordinated program
- Project 3: Develop industry process to handle generational change, skills development etc
- Project 4: A suite of projects to increase further automation, focused on new technologies and approaches in trellising and harvesting system enhancements (robotics, harvesting, pruning, precision) and encourage growers and machinery and equipment suppliers to design and trial improvements
- Project 5: Continued trials on procedures to reduce excessive shatter, and achieve consistently high productivity in Sunmuscat

4.1.2 Program 3: Vine Improvement and Commercialisation

- Project 1: Transition program with the CSIRO, in collaboration with other horticultural sectors, to ensure a process for ongoing evaluation of vines is in place following the withdrawal of CSIRO from dried grape research and development
- Project 2: Evaluate up to 80-100 new varieties and rootstocks, already bred by the CSIRO, over the next five years (and to hedge against future import competition)
- Project 3: Continue research and development into rootstock in collaboration with other viticulture sectors and through the CSIRO's ongoing work program with wine grapes
- Project 4: Formalise intellectual property rights and royalty arrangements with a new plant breeder for the future commercialisation of dried grape varieties.
- Project 5: Assess the importance of new arrangements in vine breeding and evaluation to supersede the 'evaluation only' period of the next few years (linked to Project 1).
- Project 6: Continue to monitor the benefits and potential for genetically engineered/modified plant improvements and the market reaction to these developments.
- Project 7: Voluntary contribution (VC) initiatives for enhanced processing productivity (including capability and automation)

4.1.3 Program 4: Water Usage and Climate Response Research

- Project 1: Continue, or re-design, an optimum irrigation project, using regulated irrigation variations over several years.
- Project 2: Conduct a research project on practical viticultural options that will achieve equivalent or more yields with optimum energy, fertiliser and other production inputs.
- Project 3: Conduct research on new viticultural management practices for climate change.
- Project 4: Support the Industry Development Officer's program in skills transfer, production advice, proactive advice in emergency situations, and communication of best practice.

4.1.4 Program 5: Marketing and Promotional Activities

- Project 1: Assess diversification/new product development options and the development of co-products (non-gradable and waste).
- Project 2: Determine emerging market niches that may offer a price premium or meet a specific customer need.
- Project 3: Conduct joint market development programs with the processing companies in the industry to ensure that market preferences are reflected in grower and production practices
- Project 4: Attend relevant International trade fairs, events and conferences to raise the Australian profile and to collect information for analysis on the international marketing situation and appropriate research and development initiatives.
- Project 5: Compile information from overseas networks on import and export trends in the industry.
- Project 6: Monitor global and local crop forecasts and production performance.
- Project 7: Continue to support the emergence of well managed organic and biological production systems as an option for both market differentiation and sustainable production.
- Project 8: HAL DFA Partnership Agreement (marketing levy)
- Project 9: Communications Project (including website development and maintenance and the management of the research and development library)
- Project 10: Quality and Food Security Program
- Maintain the dried grape approved supplier program as the base quality assurance scheme for producers.
 - Extend the Spray Diary recording system and encourage the completion of diary entries within 24 hours of spray applications (and move towards an online diary system).
 - Ensure traceability and accountability, using the property identification code to establish from farm to plate tracing, as a further step towards industry wide food safety.
 - Residue testing and Quality Centre
 - Grading system improvements (toward colour sorting)
 - Bio-security surveillance system

4.2 Measurable Targets

The targets against which the strategic investment projects will be measured for the five year plan are, by 2016:

- There will be 25,000 tonnes of dried grape production in Australia. This represents an 8,000 tonnes increase on the assessed 'normal' yield (of 17,000 tonnes) from existing plantings. However, it represents a 17,500 tonnes increase on the yield in the adverse climate affected 2011 season.
- Of the total production, 2,500 tonnes will be produced from new varieties (including climate tolerant varieties) and/or new/alternative production systems. This includes production from new vine varieties and from alternative production systems such as organic, biological, revised trellising or crop management methods.
- Of the total production, 4,310 tonnes will be derived from new growers to the industry and expanding growers within the industry.
- A total of 10-15% of properties will increase by 8 to 10 hectares⁴, contributing 3,304 tonnes to the five year production growth target.
- The average farm gate price will be \$1,900 per tonne. This is an average across all fruit types and grades, and is estimated to be an increase of \$100 per tonne across current averages.
- Average product yield will be increased to 7.63 tonnes per hectare. This is an increase of 0.5 tonnes per hectare on the current norm.
- The financial return on use of water will be increased by 5%.
- There will be 5 to 10 new products developed and launched over the five year period.

⁴ This is estimated to be the equivalent of a 1 hectare increase in average property size across the industry

4.3 Brief Project Descriptions

4.3.1 Programs 1 and 2

Project 1: Updated assessment of the viability of dried grape production under varying scenarios (production system and area, variety mix, input usage) including training and presentations

Project Scope/Activities:

- Build on work undertaken in previous years on viticultural production and economic returns under a wide range of scenarios, including
 - o Property size
 - o Varieties planted
 - o Planting/trellising system
 - o Yield and quality variations
 - o Farm gate price structure
 - o Operating expenses
 - o Labour, equipment and automation options
 - o Chemical usage and soil management
 - o Water usage
 - o Benefits of 'critical mass' from greater areas under vine
 - o Maintenance and plant replacement
 - o Return on investment
- Develop the assessment work into a computerised system for modelling and future enhancement
- Conduct training and mentoring
- Conduct presentations and provide support to users
- Develop a web-based package for applying the system.

Project 2: Promote the industry to new entrants through a coordinated program (with consistent information and an agreed referral and advisory process)

Project Scope/Activities:

- Written and advisory support for both proactively and reactively responding to potential new entrants to the industry.
- Development of industry opportunity profiles for new entrants.
- Newsletters and grower communiqué program through IDO
- Provision of economic and business indices to assist existing and new growers in management decisions.

Project 3: Develop an industry process to handle generational change, skills development and encourage future investment

Project Scope/Activities:

- Consultative and comparative research project to document an industry succession plan, with an indicative process for handling generational change, skills development and future investment.

Project 4: A suite of projects to increase further automation, focused on new technologies and approaches in trellising and harvesting system enhancements (robotics, harvesting, pruning, precision) and encourage growers and machinery and equipment suppliers to design and trial improvements

Project 5: Continued trials on procedures to reduce excessive shatter, and achieve consistently high productivity in Sunmuscat

Achieve consistent productivity in Sunmuscat with variance below 30% each year.

4.3.2 Program 3

Project 1: Transition program with the CSIRO, in collaboration with other horticultural sectors, to ensure a process for ongoing evaluation of vines is in place following the withdrawal of CSIRO from dried grape research and development

Project 2: Evaluate up to 80-100 new varieties and rootstocks, already bred by the CSIRO, over the next five years (and to hedge against future import competition)

Project 3: Continue research and development into rootstock in collaboration with other viticulture sectors and through the CSIRO's ongoing work program with wine grapes

Actions and Outputs:

- Effective field evaluations which achieve agronomic assessments quickly, without losing scientific rigour.
- Completion of field evaluations 80 to 100 new varieties, using the following selection criteria:
 - Is it a white grape and seedless?
 - Is it rain tolerant?
 - What's the size?
 - What is the mass when dried?
 - Is it the right flavour?
 - Is it succulent?
 - What is the fresh yield?
 - What are the management requirements?
 - What is the level of compatibility on desirable rootstocks?
 - Does it have disease and rain (not splitting) resistance?
- A mechanism for assessing and commercially adapting improved rootstocks.

Project 4: Formalise intellectual property rights and royalty arrangements with a new plant breeder for the future commercialisation of dried grape varieties.

Project 5: Assess the importance of new arrangements in vine breeding and evaluation to supersede the 'evaluation only' period of the next few years (linked to Project 1).

Project 6: Continue to monitor the benefits and potential for genetically engineered/modified plant improvements and the market reaction to these developments.

Project 7: Voluntary contribution (VC) initiatives for enhanced processing productivity (including capability and automation)

Actions and Outputs:

- Formalise intellectual property rights and royalty arrangements with the CSIRO for the future commercialisation of dried grape varieties.
- Assess the importance of new arrangements in vine breeding and evaluation to supersede the 'evaluation only' period of the next few years. The new arrangements could include DFA overseeing breeding programs in the future (perhaps through an international breeder and VAMMVIA, DPI or a private operator for evaluation) or in joint venture with other viticultural sectors (particularly table grapes) where appropriate.
- Continue to monitor the benefits and potential for genetically engineered/modified plant improvements and the market reaction to these developments.
- Appoint growers to be involved in commercial field trial evaluation (with some contribution to growers' costs).
- New arrangements in plant breeding for the next generations of the industry.
- Embedding of a new process-flow for vine research and development, involving:
 - Determining breeding initiatives (through the Unique Varieties committee, as the consulting mechanism)
 - Undertaking breeding program
 - Varieties developed for assessment in greenhouse or in trial plots
 - Evaluation at growers' properties in trial commercial plots.
 - Growers provide reports back to Unique Varieties Committee.
 - Selective rollout of commercialisation and product launching.

4.3.3 Program 4

- Project 1: Continue, or re-design, an optimum irrigation project, using regulated irrigation variations over several years.**
- Project 2: Conduct a research project on practical viticultural options that will achieve equivalent or more yields with optimum energy, fertiliser and other production inputs.**
- Project 3: Conduct research on new viticultural management practices for climate change.**
- Project 4: Support the Industry Development Officer's program in skills transfer, production advice, proactive advice in emergency situations, and communication of best practice.**

Actions and Outputs:

- Undertake projects to increase further automation, focused on new technologies and approaches in:
 - Trellising and harvesting system enhancements
 - Robotics
 - Harvesting
 - Pruning
 - Precision (scanning and grading technology)
- Encourage growers and machinery and equipment suppliers to design and trial improvements in cordon spraying, trellising, irrigation, leaf suckers, planting configurations and densities, wetters, pruning and harvest (eg automated pruning platforms) and post-harvest treatments (eg drying and gas usage efficiencies).

- Trials and introduction of further automation in dried grape vineyards, derived from improvements to both equipment and vineyard practices.
- Continue, or re-design, the recently shelved deficit irrigation project (evaluating potential for more fruit with less water), using regulated deficits over several years.
- Develop research projects on practical viticultural options that will achieve equivalent or more yields with less:
 - Water
 - Energy
 - Fertiliser and other production imports.
- Develop research initiatives to model the viticultural responses needed for climate variability.
- Support the Industry Development Officer's program which provides for skills transfer, production advice, proactive advice in emergency situations, and communication of best practice.
- Continue to support the emergence of well managed organic and biological production systems as an option for both market differentiation and sustainable production.
- Ongoing support for the Industry Development Officer's functions and program.
- Improved water efficiency.
- Reduced use of energy and viticultural inputs.
- Additional production from properties where organic and biological production systems are in place.

4.3.4 Program 5: Marketing and Promotional Activities

Project 1: Assess diversification/new product development options and the development of co-products (non-gradable and waste).

Project 2: Determine emerging market niches that may offer a price premium or meet a specific customer need.

Project 3: Conduct joint market development programs with the processing companies in the industry to ensure that market preferences are reflected in grower and production practices

Project 4: Attend relevant International trade fairs, events and conferences to raise the Australian profile and to collect information for analysis on the international marketing situation and appropriate research and development initiatives.

Project 5: Compile information from overseas networks on import and export trends in the industry.

Project 6: Monitor global and local crop forecasts and production performance.

Project 7: Continue to support the emergence of well managed organic and biological production systems as an option for both market differentiation and sustainable production.

Project 8: HAL DFA Partnership Agreement (marketing levy)

Project 9: Communications Project (including website development and maintenance and the management of the research and development library)

Project 10: Quality and Food Security Program

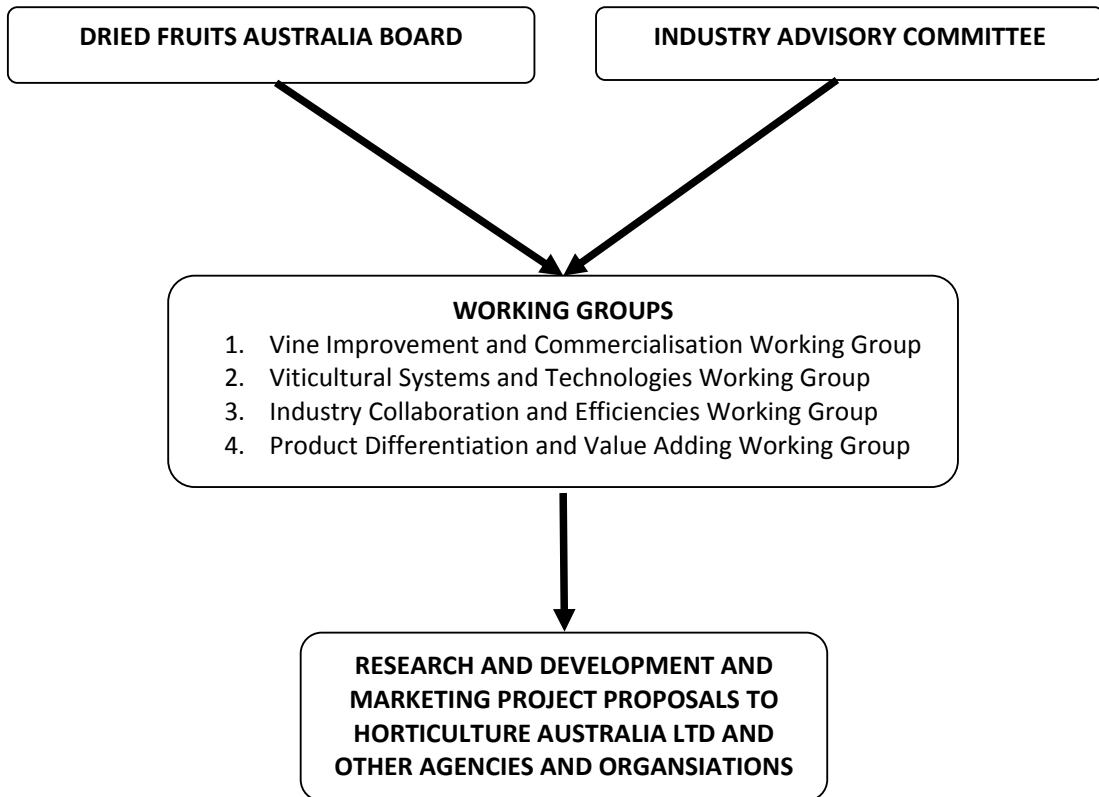
Actions and Outputs:

- Economic and business indices to assist existing and new growers in management decisions.
- Written and advisory support for both proactively and reactively responding to potential new entrants to the industry.
- Milestones for implementing succession arrangements for growers and industry leadership.
- Maintain the dried grape approved supplier program as the base quality assurance scheme for producers.
- Undertake a case study on traceability and accountability, using the property identification code to establish from farm to plate tracing, as a further step towards industry wide food safety.
- Establish an integrated grower information base incorporating spray and irrigation records, water accounts, insurances, occupational health and safety manuals, etc.
- An approved supplier program to which 95% of producers are accredited.
- An effective electronic spray diary recording system, with completion within 24 hours by 100% of growers.
- Completed traceability case study, with recommendations for adoption by the wider industry.
- A secure integrated electronic grower information system, managed by DFA.
- Maintain the dried grape approved supplier program as the base quality assurance scheme for producers.
- Ensure traceability and accountability, using the property identification code to establish from farm to plate tracing, as a further step towards industry wide food safety.
- Residue testing and Quality Centre
- Grading system improvements (toward colour sorting)
- Bio-security surveillance system.
- Assess diversification options and the development of co-products.
- Determine emerging market niches that may offer a price premium or meet a specific customer need.
- Conduct joint market development programs with the processing companies in the industry to ensure that market preferences are reflected in grower and production practices
- Attend relevant International trade fairs, events and conferences to raise the Australian profile and to collect information for analysis on the international marketing situation and appropriate research and development initiatives.
- Compile information from overseas networks on import and export trends in the industry.
- Monitor global and local crop forecasts and production performance.

Table 4.1: Stakeholders for Strategies and Actions

	Opportunities for Industry		DFA Facilitation	Commercial Potential	Other JV Partners	Other Private Sector Involvement
	Growers	Processors				
Vine Improvement	★		★	★	★	
Viticultural Systems and Technologies	★		★			★
Collaboration and Efficiencies	★	★	★	★	★	
Marketing and Value Adding		★	★	★	★	★

Figure 4.1 STRUCTURE FOR IMPLEMENTING THE INVESTMENT PLAN



APPENDIX A: Economic Evaluation of Proposed Projects

All dried grape investment targets were converted into financial returns, to be achieved over the five year period, and in some cases for longer term initiatives, beyond the five year period. The targets and their financial return implications are summarised in Table A1.

Table A1: Dried Grape Industry Research and Development Investment Targets

Objectives	Target Measures	Quantified Target	Conversion to Financial Target (\$ million)	Return from Proposed Investment Plan - 5 years (\$ million)*
Increase production volume Improve farm-gate and final product price Reduce costs of production across the supply chain and better manage risk Provide a good operating environment	Increase production Increase average farm size Increase average farm gate price	25,000 tonnes and average farm size increase by 10-15% of growers by 8-10 hectares**	\$7.75	\$6.28
	New product development and launches	Achieve average farm gate pricing of \$1,900 per tonne	\$2.50	\$2.50
	New varieties and production systems	2,500 tonnes from new varieties and/or production systems	\$4.50	\$2.16
	Increase average yield	Increase yield to 7.63 tonnes per acre	\$2.15	\$2.15
	Improved use of irrigation water (supporting environmental flows)	Increase financial return on the use of water by 5%.	\$0.25	\$0.25
	TOTAL		\$17.15	\$13.34

* Note: Balance of target expected to be achieved in longer term (10 years and beyond)

** This is estimated to be the equivalent of a 1 hectare increase in average property size across the industry

Table A2: Results of Analysis

	New/Expanded Production Target = \$7.75m	New Varieties New Systems Target = \$4.5m	Improved Yield Target = \$2.15m	Positive or negative impacts on farm gate price				Return on Investment	Budget/Source of Funds	Projects included in work plan and associated budget
				Net Improved Farm gate Price Target = \$2.5m	Net-Water Efficiency Target = \$0.25m	Evaluation Quadrant	Return			
Programs 1/2										
Project 1	5%	2%	2%	0%	0%	4	\$520,500	11.57	\$45,000	\$45,000
Project 2	10%	0%	5%	0%	0%	3	\$882,500	35.30	\$25,000	IDO Program
Project 3	10%	0%	0%	0%	0%	2	\$947,000	37.88	\$25,000	IDO Program
Project 4	0%	0%	15%	0%	0%	4	\$322,500	3.23	\$100,000	\$100,000
Project 5	5%	0%	5%	0%	0%	2	\$495,000	8.25	\$60,000	IDO Program
Program 3										
Project 1	0%	1%*	0%	0%	0%	2	\$45,000	0.00	In-kind	External
Project 2	1%*	1%*	0%	0%	0%	4	\$122,500	0.25	\$500,000	\$500,000
Project 3	10%	2%	0%	0%	0%	2	\$865,000	2.88	\$300,000	External
Project 4	0%	0%	0%	0%	0%	1	\$0	0.00	\$50,000	DFA Head Office
Project 5	0%	0%	0%	0%	0%	1	\$0	0.00	\$20,000	CEO Research
Project 6	0%	5%	0%	0%	0%	3	\$225,000	11.25	\$20,000	External
Program 4										
Project 1	0%	0%	0%	0%	30%	2	\$75,000	1.50	\$50,000	External
Project 2	0%	0%	35%	0%	30%	4	\$375,000	1.15	\$720,000	\$720,000
Project 3	0%	0%	20%	0%	30%	2	\$505,000	5.05	\$100,000	External
Project 4	25%	0%	0%	0%	10%	4	\$1,962,500	6.54	\$300,000	IDO Program

Table A2: Results of Analysis (continued)

	New/Expanded Production Target = \$7.75m	New Varieties New Systems Target = \$4.5m	Improved Yield Target = \$2.15m	Net Improved Farm gate Price Target = \$2.5m	Net-Water Efficiency Target = \$0.25m	Evaluation Quadrant	\$ Return	Return on Investment	Budget/Source of Funds	Projects included in work plan and associated budget
Program 5										
Project 1	0%	15%	0%	10%	0%	4	\$925,000	18.50	\$50,000	\$50,000
Project 2	0%	0%	0%	15%	0%	4	\$375,000	3.75	\$100,000	\$100,000
Project 3	0%	0%	0%	10%	0%	2	\$250,000	4.17	\$60,000	External
Project 4	0%	0%	0%	10%	0%	1	\$250,000	2.50	\$100,000	\$50,000 + External
Project 5	0%	0%	0%	10%	0%	1	\$250,000	25.00	\$10,000	\$10,000
Project 6	0%	0%	0%	5%	0%	1	\$125,000	12.50	\$10,000	DFA office
Project 7	0%	10%	0%	0%	0%	4	\$450,000	4.50	\$100,000	IDO Role
Project 8	0%	0%	0%	10%	0%	4	\$250,000	1.39	\$180,000	\$180,000
Project 9	0%	0%	0%	10%	0%	4	\$250,000	1.67	\$150,000	\$150,000
Project 10	15%	10%	0%	20%	0%	4	\$2,327,500	5.82	\$150,000	IDO/DFA/Processors/Quality Centre
Total % of target	81%	46%	100%	100%	100%					
Total \$ contribution to target	\$6.278 m	\$2.070 m	\$2.15 m	\$2.5 m	\$0.25 m		\$13.248 m	3.81	\$3.475 m	\$2.775 (including IDO funding)

* Note: These projects are long-term development activities and the expected return on investment from these projects is expected to be achieved beyond the 5 year planning period

SUMMARY:

Total Research, Development and Marketing budget is estimated to be \$3.475 million, with \$2.775 million as the work program involving HAL funding support (including matching contributions). Levy contributions have been calculated on dried grape yields of

2012:	15,000 tonnes
2013:	16,000 tonnes
2014:	19,000 tonnes
2015:	22,000 tonnes
2016:	25,000 tonnes

APPENDIX B: Screening Process for Investment Projects

Evaluation criteria:

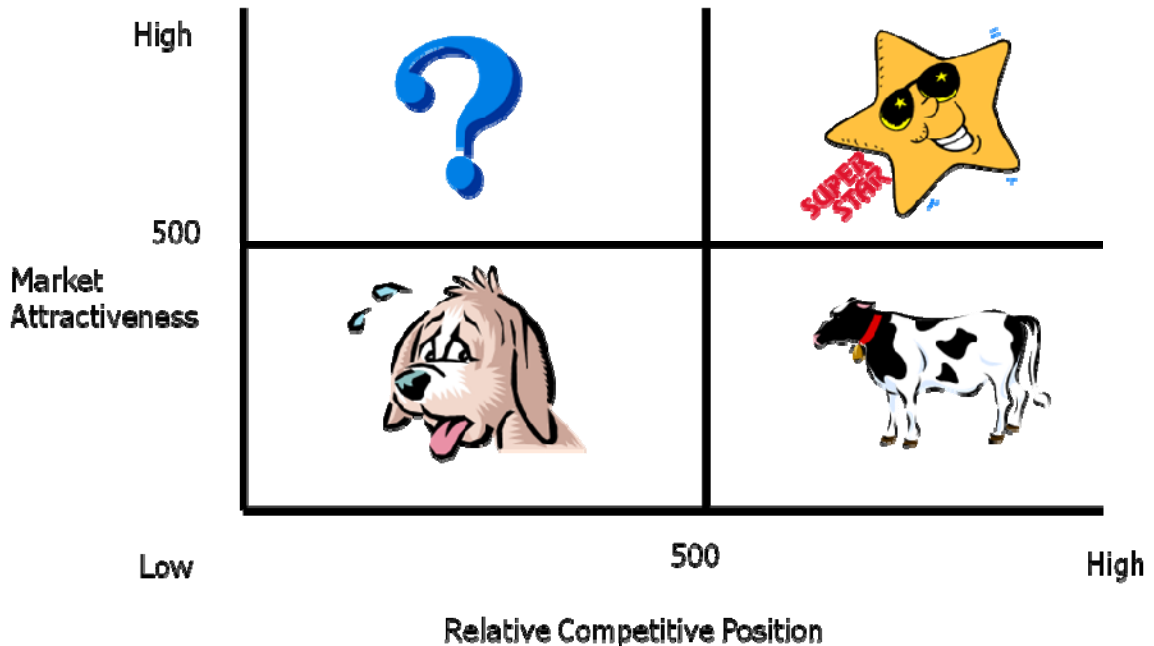
It is assumed that all projects will be designed so that:

- The work plan and budget give value for money
- Appropriate personnel and other resources are allocated
- The project terms of reference are structured to achieve the relevant targets in this plan
- The time scale and work program is achievable.

Therefore the economic analysis required for prioritising and selecting projects will be based on the extent to which:

- i) Each project is assessed to contribute to **industry growth** (objectives 1 and 2 – strategies 1,2,3), and
- ii) Each project is assessed to contribute to **industry viability and long term security** (objectives 3 and 4 – strategies 4, 5 and 6).

The economic model used in this analysis is an adaptation of the Product-Portfolio Analysis process (first developed by the Boston Consulting Group in the 1960’s and subsequently adapted for a range of business applications including resource allocation and export planning). One example was based on assessing products on the basis of relative competitive position (ie how well a product rates against competitors’ products) and market attractiveness (growth potential, market share etc).

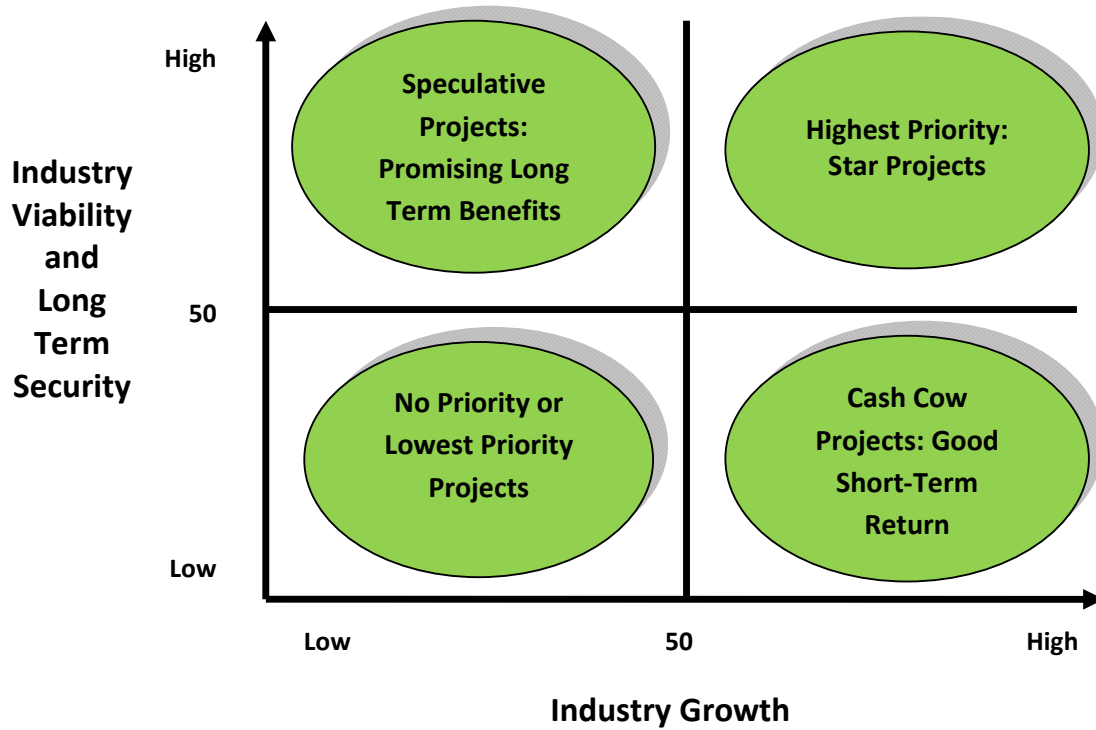


Street Ryan has adapted this matrix model to suit the Dried Grape Industry Strategic Investment planning assessment task, as follows:

X-Axis: Industry Growth

Y-Axis: Industry Viability and Long Term Security,

Where the quadrants have the following meaning



Assessment Process:

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2		
Product yield	2		
Product price	2		
Market development	1		
New technology and automation	1		
Cost-efficiencies	1		
Collaboration for critical mass	1		
Total	10		

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2		
Product branding	2		
Climate resilience/hardiness	2		
Market development	1		
Water usage	1		
Skills development	1		
Value adding	1		
Total	10		

SUMMARY OF RATINGS FOR SIP PROJECTS:

Growth Factors	Meaning the Specific Project will:
1. Product volume	Lead to an increase in dried fruit produced.
2. Product yield	Increase tonnage per acre/hectare.
3. Product price	Deliver fruit quality or other characteristics that assist in achieving above 'world-parity' pricing levels.
4. Market development	Help to develop new markets for dried fruit.
5. New technology and automation	Assist in making the Australian industry more competitive through the design, improvement or application of new technology or labour saving methods.
6. Cost-efficiencies	Enable viticultural cost-savings through improved practices, increased average property sizes or supply chain improvements.
7. Collaboration for critical mass	Equipment sharing, group buying, share farming, joint contracting.

Industry Viability and Long Term Security	Meaning the Specific Project will:
8. Product differentiation	Produce Australian fruit that is perceived to be different to either processors or compared with other suppliers - including unique varieties, production method (eg organic, GM or low chemical), reputation or visible fruit quality).
9. Product branding	Assists Australian fruit to develop benefits from being identified and recognised in the market place (including recognition on product labels and ingredient listings)
10. Climate resilience/ hardiness	Developing or improving fruit varieties and/or production techniques and responsiveness to variable climatic conditions (including salinity, disease and pest resistance, hail and frost tolerance, etc)
11. Environmental protection or improvement	Develop greater levels of environmental benefit in production such as lowering the water table, reducing salt, improving organic matter in soils, building up top-soils, reducing wastage (or utilising waste as a co-product)
12. Water usage	Help to optimise water usage compared with product yield (ie maximise fruit produced per megalitre of water used)
13. Skills development	Improve the existing or future dried grape industry skills base in all relevant areas (viticulture, management, finance, marketing, processing, equipment usage, troubleshooting, etc).
14. Value adding	Help in finding value-added applications and processes for dried grapes (such as functional food benefits, new consumer products, uses for bio-waste, improved shelf-life, longer-life storage, etc)

PROGRAMS 1 and 2: Attraction of new growers and investment and Increase average property size, and Production and viticultural technologies

Project 1: Updated assessment of the viability of dried grape production under varying scenarios

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	8	16
Product yield	2	8	16
Product price	2	4	8
Market development	1	0	0
New technology and automation	1	7	7
Cost-efficiencies	1	8	8
Collaboration for critical mass	1	7	7
Total	10		62

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	7	14
Product branding	1	3	3
Climate resilience/hardiness	2	6	12
Environmental protection or improvement	1	6	6
Water usage	1	6	6
Skills development	2	9	18
Value adding	1	6	6
Total	10		65

Project 2: Promote the industry to new entrants through a coordinated program (with consistent information and an agreed referral and advisory process)

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	10	20
Product yield	2	8	16
Product price	2	4	8
Market development	1	0	0
New technology and automation	1	7	7
Cost-efficiencies	1	8	8
Collaboration for critical mass	1	7	7
Total	10		66

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	2	4
Product branding	1	3	3
Climate resilience/hardiness	2	5	10
Environmental protection or improvement	1	5	5
Water usage	1	4	4
Skills development	2	6	12
Value adding	1	1	1
Total	10		39

Project 3: Develop an industry process to handle generational change, skills development and encourage future investment

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	5	10
Product yield	2	2	4
Product price	2	0	0
Market development	1	0	0
New technology and automation	1	5	5
Cost-efficiencies	1	10	10
Collaboration for critical mass	1	10	10
Total	10		39

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	4	4
Product branding	1	4	4
Climate resilience/hardiness	2	6	12
Environmental protection or improvement	1	6	6
Water usage	1	6	6
Skills development	2	10	20
Value adding	1	6	6
Total	10		58

Project 4: A suite of projects to increase further automation, focused on new technologies and approaches in trellising and harvesting system enhancements (robotics, harvesting, pruning, precision) and encourage growers and machinery and equipment suppliers to design and trial improvements

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	8	16
Product yield	2	6	12
Product price	2	1	1
Market development	1	3	3
New technology and automation	1	10	10
Cost-efficiencies	1	5	5
Collaboration for critical mass	1	7	7
Total	10		54

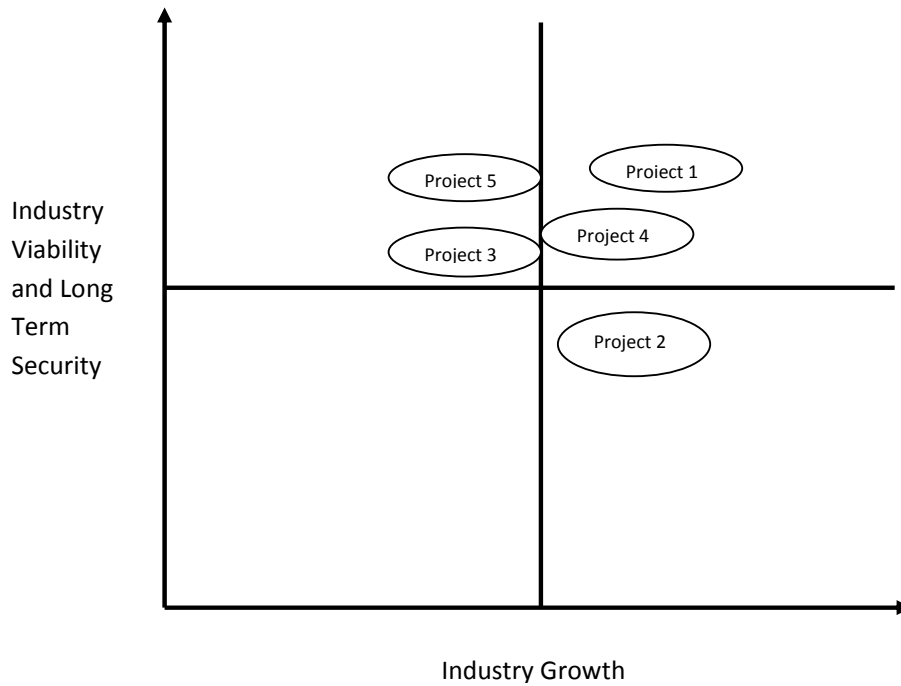
Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	5	10
Product branding	1	3	3
Climate resilience/hardiness	2	6	12
Environmental protection or improvement	1	5	5
Water usage	1	7	7
Skills development	2	9	18
Value adding	1	6	6
Total	10		61

Project 5: Continued trials on procedures to reduce excessive shatter, and achieve consistently high productivity in Sunmuscat

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	7	14
Product yield	2	6	12
Product price	2	5	5
Market development	1	3	3
New technology and automation	1	5	5
Cost-efficiencies	1	3	3
Collaboration for critical mass	1	2	2
Total	10		44

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	9	18
Product branding	1	8	8
Climate resilience/hardiness	2	9	18
Environmental protection or improvement	1	5	5
Water usage	1	2	2
Skills development	2	6	12
Value adding	1	7	7
Total	10		70

PROGRAMS 1 and 2: Attraction of new growers and investment and Increase average property size, and Production and viticultural technologies



PROGRAM 3 Vine Improvement and Commercialisation

Project 1: Transition program with the CSIRO, in collaboration with other horticultural sectors, to ensure a process for ongoing evaluation of vines is in place following the withdrawal of CSIRO from dried grape research and development

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	4	8
Product yield	2	3	6
Product price	2	4	8
Market development	1	3	3
New technology and automation	1	1	1
Cost-efficiencies	1	2	2
Collaboration for critical mass	1	2	2
Total	10		30

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	10	20
Product branding	1	8	8
Climate resilience/hardiness	2	9	18
Environmental protection or improvement	1	5	5
Water usage	1	5	5
Skills development	2	5	10
Value adding	1	8	8
Total	10		74

Project 2: Evaluate up to 80-100 new varieties and rootstocks, already bred by the CSIRO, over the next five years

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	9	18
Product yield	2	9	18
Product price	2	9	9
Market development	1	6	6
New technology and automation	1	7	7
Cost-efficiencies	1	7	7
Collaboration for critical mass	1	6	6
Total	10		71

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	10	20
Product branding	1	10	10
Climate resilience/hardiness	2	9	18
Environmental protection or improvement	1	7	7
Water usage	1	5	5
Skills development	2	5	10
Value adding	1	8	8
Total	10		78

Project 3: Continue research and development into rootstock in collaboration with other viticulture sectors and through the CSIRO's ongoing work program with wine grapes

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	5	10
Product yield	2	5	10
Product price	2	2	4
Market development	1	0	0
New technology and automation	1	2	2
Cost-efficiencies	1	4	4
Collaboration for critical mass	1	2	2
Total	10		32

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	10	20
Product branding	1	10	10
Climate resilience/hardiness	2	10	18
Environmental protection or improvement	1	7	7
Water usage	1	6	6
Skills development	2	7	14
Value adding	1	8	8
Total	10		83

Project 4: Formalise intellectual property rights and royalty arrangements with a new plant breeder for the future commercialisation of dried grape varieties

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	3	10
Product yield	2	3	10
Product price	2	2	4
Market development	1	0	0
New technology and automation	1	2	2
Cost-efficiencies	1	4	4
Collaboration for critical mass	1	2	2
Total	10		32

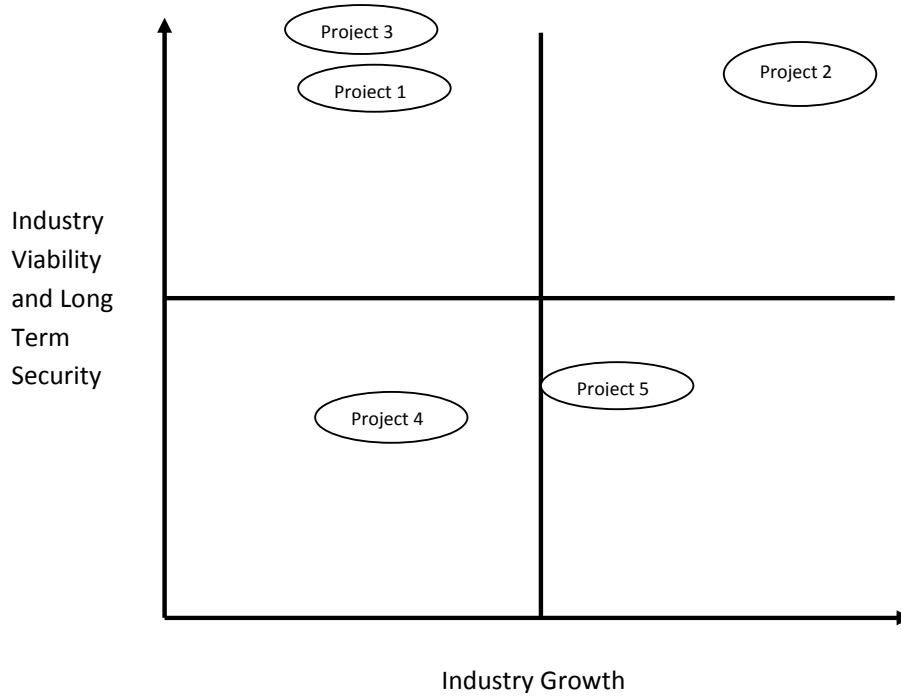
Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	4	8
Product branding	1	4	4
Climate resilience/hardiness	2	5	10
Environmental protection or improvement	1	3	3
Water usage	1	3	3
Skills development	2	9	9
Value adding	1	7	7
Total	10		44

Project 5: Continue to monitor the benefits and potential for genetically engineered/modified plant improvements and the market reaction to these developments

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	7	10
Product yield	2	7	10
Product price	2	2	4
Market development	1	0	0
New technology and automation	1	2	2
Cost-efficiencies	1	4	4
Collaboration for critical mass	1	2	2
Total	10		32

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	2	2
Product branding	1	2	2
Climate resilience/hardiness	2	10	20
Environmental protection or improvement	1	7	7
Water usage	1	6	6
Skills development	2	7	14
Value adding	1	5	5
Total	10		56

PROGRAM 3: Vine Improvement and Commercialisation



PROGRAM 4: Water usage and climate response research program**Project 1: Continue, or re-design, an optimum irrigation project, using regulated irrigation variations over several years**

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	5	10
Product yield	2	5	10
Product price	2	0	0
Market development	1	0	0
New technology and automation	1	8	8
Cost-efficiencies	1	9	9
Collaboration for critical mass	1	6	6
Total	10		43

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	4	4
Product branding	1	1	1
Climate resilience/hardiness	2	10	20
Environmental protection or improvement	1	10	10
Water usage	1	10	10
Skills development	2	8	8
Value adding	1	2	2
Total	10		55

Project 2: Conduct a research project on practical viticultural options that will achieve equivalent or more yields with optimum energy, fertiliser and other production inputs

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	6	12
Product yield	2	9	18
Product price	2	5	10
Market development	1	0	0
New technology and automation	1	7	7
Cost-efficiencies	1	5	5
Collaboration for critical mass	1	4	4
Total	10		56

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	4	4
Product branding	1	2	2
Climate resilience/hardiness	2	10	20
Environmental protection or improvement	1	10	10
Water usage	1	8	8
Skills development	2	9	18
Value adding	1	4	4
Total	10		66

Project 3: Conduct research on changes to viticultural management practices to be more responsive to climate variability

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	4	8
Product yield	2	4	8
Product price	2	6	12
Market development	1	0	0
New technology and automation	1	5	5
Cost-efficiencies	1	3	3
Collaboration for critical mass	1	1	1
Total	10		37

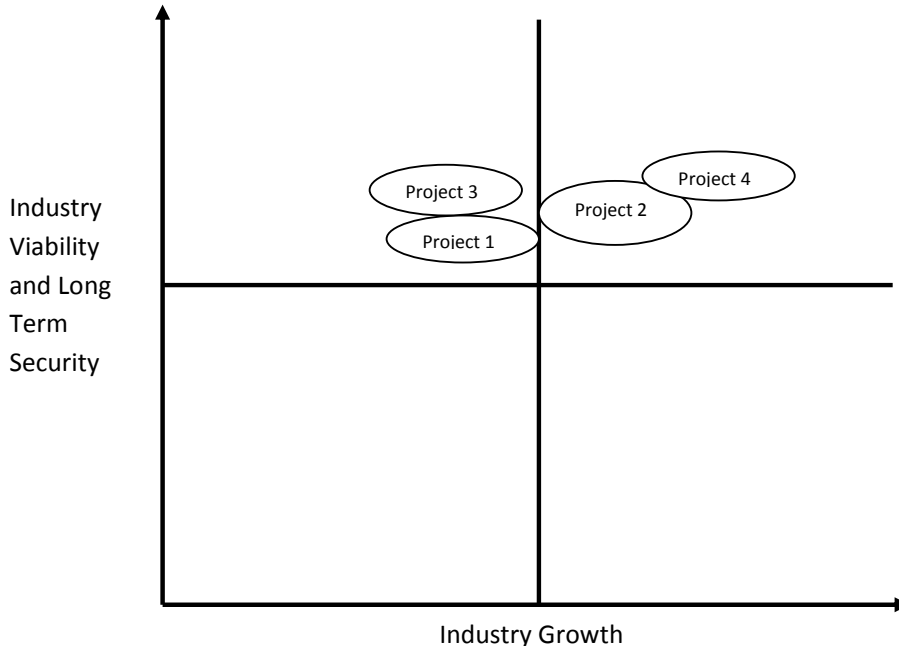
Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	2	4
Product branding	1	2	2
Climate resilience/hardiness	2	10	20
Environmental protection or improvement	1	8	8
Water usage	1	7	7
Skills development	2	8	16
Value adding	1	3	3
Total	10		60

Project 4: Support the Industry Development Officer’s program which provides for skills transfer, production advice, proactive advice in emergency situations, and communication of best practice

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	9	18
Product yield	2	9	18
Product price	2	6	12
Market development	1	0	0
New technology and automation	1	7	7
Cost-efficiencies	1	8	8
Collaboration for critical mass	1	8	8
Total	10		71

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	6	12
Product branding	1	2	2
Climate resilience/hardiness	2	6	12
Environmental protection or improvement	1	7	7
Water usage	1	5	5
Skills development	2	10	20
Value adding	1	5	5
Total	10		63

PROGRAM 4: Water usage and climate response research program



PROGRAM 5: Marketing and Promotional Activities

Project 1: Assess diversification /new product development options and the development of co-products (non-gradable and waste)

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	7	14
Product yield	2	5	10
Product price	2	6	12
Market development	1	7	7
New technology and automation	1	4	4
Cost-efficiencies	1	9	9
Collaboration for critical mass	1	9	9
Total	10		65

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	6	12
Product branding	1	7	7
Climate resilience/hardiness	2	3	6
Environmental protection or improvement	1	3	3
Water usage	1	3	3
Skills development	2	9	18
Value adding	1	8	8
Total	10		57

Project 2: Determine emerging market niches that may offer a price premium or meet a specific customer need

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	1	18
Product yield	2	2	18
Product price	2	10	12
Market development	1	10	0
New technology and automation	1	0	7
Cost-efficiencies	1	5	8
Collaboration for critical mass	1	5	8
Total	10		71

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	10	20
Product branding	1	9	9
Climate resilience/hardiness	2	2	4
Environmental protection or improvement	1	2	2
Water usage	1	2	2
Skills development	2	5	10
Value adding	1	9	9
Total	10		56

Project 3: Conduct joint market development programs with the processing companies in the industry to ensure that market preferences are reflected in grower and production practices

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	1	1
Product yield	2	1	1
Product price	2	9	18
Market development	1	10	10
New technology and automation	1	0	0
Cost-efficiencies	1	8	8
Collaboration for critical mass	1	8	8
Total	10		46

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	8	16
Product branding	1	9	9
Climate resilience/hardiness	2	2	4
Environmental protection or improvement	1	2	2
Water usage	1	2	2
Skills development	2	6	12
Value adding	1	9	9
Total	10		54

Project 4: Attend relevant International trade fairs, events and conferences to raise the Australian profile and to collect information for analysis on the international marketing situation and appropriate research and development initiatives

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	2	4
Product yield	2	2	4
Product price	2	6	12
Market development	1	8	8
New technology and automation	1	1	1
Cost-efficiencies	1	5	5
Collaboration for critical mass	1	5	5
Total	10		39

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	3	6
Product branding	1	6	6
Climate resilience/hardiness	2	1	2
Environmental protection or improvement	1	1	1
Water usage	1	1	1
Skills development	2	9	18
Value adding	1	5	5
Total	10		39

Project 5: Compile information from overseas networks on import and export trends in the industry and monitor global and local crop forecasts and production performance

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	1	2
Product yield	2	1	2
Product price	2	2	4
Market development	1	8	8
New technology and automation	1	1	1
Cost-efficiencies	1	6	6
Collaboration for critical mass	1	6	6
Total	10		29

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	5	10
Product branding	1	6	6
Climate resilience/hardiness	2	2	4
Environmental protection or improvement	1	1	1
Water usage	1	0	0
Skills development	2	8	16
Value adding	1	4	4
Total	10		41

Project 6: Continue to support the emergence of well managed organic and biological production systems as an option for both market differentiation and sustainable production

Growth Factors	Weighting	Score (0-10)	Weighted Score
Product volume	2	6	12
Product yield	2	6	12
Product price	2	6	12
Market development	1	8	8
New technology and automation	1	6	6
Cost-efficiencies	1	6	6
Collaboration for critical mass	1	6	6
Total	10		62

Industry Viability and Long Term Security	Weighting	Score (0-10)	Weighted Score
Product differentiation	2	10	20
Product branding	1	8	8
Climate resilience/hardiness	2	8	16
Environmental protection or improvement	1	8	8
Water usage	1	5	5
Skills development	2	9	18
Value adding	1	5	5
Total	10		80

PROGRAM 5: Marketing and Promotional Activities

