

TG19004 – Minimum maturity standards adoption across the table grape supply chain – Impact Assessment

June 2025



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Funding statement:

Horticulture Impact Assessment Program 2024-25 – 2026-27 is funded by Hort Innovation. This multi-industry project is a strategic levy investment in the Hort Innovation Almond, Apple & Pear, Avocado, Banana, Blueberry, Cherry, Citrus, Dried Grape, Lychee, Macadamia, Mango, Melon, Mushroom, Nursery, Olive, Onion, Papaya, Passionfruit, Persimmon, Pineapple, Pistachio, Potato – Fresh, Potato – Processing, Raspberry and Blackberry, Strawberry, Summerfruit, Sweetpotato, Table Grape, Turf, and Vegetable Funds

Publishing details:

ISBN <Hort Innovation to add>

Published and distributed by: Horticulture Innovation Australia Limited
ABN 71 602100149

Level 7
141 Walker Street

North Sydney NSW 2060

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www.horticulture.com.au

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TG19004 Minimum maturity standards adoption across the table grape supply chain

Executive summary

The Australian table grape industry is a vital component of the country's horticulture sector. The industry produces approximately 240,000 tonnes annually on 25,000 hectares, with a gross production value of over \$750 million on average in the last 5 years.¹ In addition to being consumed domestically, Australia's table grapes are exported, with significant markets in China, Japan, South Korea, Indonesia, and the Philippines.² The industry has been focusing on expanding its reach in Asian markets, where there is a high demand for premium quality fruits.

Previous investments by Hort Innovation in the table grape industry has identified a need for a Minimum Maturity Standards (MMS) to be adopted across the industry. Findings from these investments show that a stricter MMS would benefit the industry by improving table grape quality and consistency, leading to an increase in consumer acceptability, and as a result, an increase in consumption and demand.

There are around 900 table grape growers operating across Australia's mainland states and the Northern Territory with various levels of production capacity. This level of fragmentation in the production means there are many challenges in adopting an industry wide standard such as the MMS.³ In contrast, there are 4 major retailers (Aldi, Coles, Costco, and Woolworths) that collectively account for 81% of the domestic table grape volume by sales value.⁴ The adoption of the MMS needs to effectively target both of these channels.

The investment has a total nominal cost of \$1,160,678, funded by Hort Innovation. This impact assessment identified a clear pathway to impact for the MMS. Two benefits were able to be quantified to demonstrate the impact of the investments, including:

- Increased value of domestic consumption of table grapes – Intuitively, the higher maturity standard in the industry would lead to increased value of both domestic consumption and exports of table grapes. Since the implementation of the project, an increase in value of table grapes in retail consumption (can be observed in industry data (7,224 kg increase in volume (9% increase) or \$107 million increase in value (33% increase) between 2023-24 and 2018-19). However, there are many factors that would influence the sweetness, and therefore the consumer purchase of grapes, ranging from weather patterns to the price and quality of substitution products like berries. It is impossible to isolate the result of the MMS on any changes in domestic consumption with the available data. This benefit is therefore estimated with a highly conservative assumption to avoid overstating this impact.
- Avoided waste within the supply chain – Across the food supply and consumption chain, it is estimated that Australia discards 7.6 million tonnes of food annually. This is estimated to cost the economy

¹ Hort Innovation, 2024, *Minimum maturity standards adoption across the table grape supply chain*, p. 4.

² ABC News 2024, *Australian table grape season looking strong and cheaper at the checkout amid export declines to China*. Accessible at <https://www.abc.net.au/news/rural/2024-09-24/table-grape-prices-expected-to-drop-dramatically-in-season/104369234>

³ TG19004 Minimum maturity standards adoption across the table grape supply chain research report.

⁴ Ibid.

\$36.6 billion each year and accounts for 3% of annual greenhouse gas emissions.⁵ The adoption of minimum maturity standards will increase the perceived quality of table grapes products and reduce waste in the supply chain, particularly at the retailer and household levels. This is achieved by encouraging purchasing and consumption of table grapes through higher perceived and actual quality of the products. Furthermore, higher Brix also has been found to inhibit the growth of certain heat-resistant moulds in fruit, potentially lengthening the shelf-life of products.

Additionally, there were 2 additional benefits that were identified but could not be quantified:

- Higher quality of table grapes – The minimum maturity standard adoption by the table grape industry would improve the quality of table grapes. This is evidenced by the data of the table grape acceptability in major retailers (percentage of fruit with Brix larger or equal to 16°) showing that since 2019-20 season, the industry has successfully improved this percentage on average by 10% compared to the benchmark period. This improvement in quality would lead to higher utility of consumers. This increase in utility, however, is difficult to quantify without extensive data on willingness to pay of consumers for the perceived improvement in quality.
- Standard improvement in other fruits – The project was also a factor in encouraging other industries to adopt minimum maturity standards to improve their quality. At the time of analysis, the melon industry was developing minimum quality standards for seedless watermelons, rock melons and honeydew melons, with the overall aim of improving their eating quality. This project is also funded by Hort Innovation (VM21001). This impact is not quantified due to outcome data of these investments is not available at the time of assessment.

The results show that, taking all quantified costs and benefits into account, the investment produced a positive net result. The investment has a net present value (NPV) of \$1.47 million and a benefit-cost ratio (BCR) of 2.18 at 30 years after investment completion using 5% discount rate. This shows that the investment delivers a net positive return to levy payers and the broader community, returning \$2.18 for every \$1 in investment. Hort Innovation has been attributed 100% of the impacts as the investment was solely funded by the RDC.

Context, objective, and details of investment

The Australian table grape industry is a vital component of the country's horticulture sector. The industry produces approximately 240,000 tonnes annually on 25,000 hectares, with a gross production value of over \$750 million on average in the last 5 years.⁶ In addition to being consumed domestically, Australia's table grapes are exported, with significant markets in China, Japan, South Korea, Indonesia, and the Philippines.⁷ The industry has been focusing on expanding its reach in Asian markets, where there is a high demand for premium quality fruits.

A diverse array of grape varieties is grown, including popular seedless types such as Thompson Seedless, Crimson Seedless, and Menindee Seedless, along with Red Globe grapes. The primary regions for table grape production include Victoria (notably the Sunraysia area like Mildura), New South Wales (around Griffith), and Western Australia (Swan Valley and Carnarvon). These areas are preferred due to their optimal warm and dry climates that are ideal for cultivating grapes.

Previous investments by Hort Innovation in the table grape industry has identified a need for a Minimum Maturity Standards (MMS) to be adopted across the industry. Findings from these investments show that a

⁵ Department of Climate Change, Energy, the Environment and Water of Australia, *Reducing Australia's food waste*. Accessible at <https://www.dcceew.gov.au/environment/protection/waste/food-waste>

⁶ Hort Innovation, 2024, *Minimum maturity standards adoption across the table grape supply chain*, p. 4.

⁷ ABC News 2024, *Australian table grape season looking strong and cheaper at the checkout amid export declines to China*. Accessible at <https://www.abc.net.au/news/rural/2024-09-24/table-grape-prices-expected-to-drop-dramatically-in-season/104369234>

stricter MMS would benefit the industry by improving table grape quality and consistency, leading to an increase in consumer acceptability, and as a result, an increase in consumption and demand.

There are around 900 table grape growers operating across Australia's mainland states and the Northern Territory with various levels of production capacity. This level of fragmentation in the production means there are many challenges in adopting an industry wide standard such as the MMS. In contrast, there are 4 major retailers (Aldi, Coles, Costco, and Woolworths) that collectively account for 81% of the domestic table grape volume by sales value.⁸ The adoption of the MMS needs to effectively target both of these channels.

Whilst the roll-out of the MMS commenced in the 2019-2020 season through extension to growers and the value chain, more time and support was needed to ensure full adoption. TG19004: Minimum Maturity Standards Adoption Across the Table Grape Supply Chain was implemented to support the achievement of widespread MMS adoption across the industry, from growers to retailers, to ensure high and consistent table grape quality. Specifically, the investment aimed to:

- Drive accountability across all key stakeholders (growers, wholesalers, major supermarkets) to ensure that the new MMS are fully implemented and adopted, resulting in greater consumer acceptability.
- Undertake quality testing (in retailer stores) and to measure impact of change with the launch and adoption of the new MMS across the value chain.
- Continue to drive best-practice across the supply chain from growers to retail through education and engagement mechanisms and drive a positive culture focused on high quality standards for Australian table grapes.
- Build capacity and understanding for quality improvement across the supply chain, with regular feedback provided.
- Monitor the adoption of the MMS and demonstrate improvements in grape quality and consumer acceptability over time; in addition monitor the consumer behavioural data collected through MT17015 – Consumer behavioural data for fresh produce (www.harvesttohome.net.au).

Alignment with Strategic Investment plan

The project aligns strongly with and directly contributes to the achievement of the objectives set out in the *Table Grape Strategic Investment Plan (SIP) 2017–2021*⁹, particularly under Outcome 1 (Demand) and Outcome 2 (Quality). Under Outcome 1, the project supports Strategy 2: *Identify and develop new and existing domestic market opportunities*, by improving consumer satisfaction through better product consistency, which in turn boosts domestic demand. Under Outcome 2, it delivers on Strategy 1: *Establish practices to enhance product quality throughout the value chain*, through wide-scale adoption of the Minimum Maturity Standards (MMS), robust on-farm and in-store monitoring, and collaborative engagement with growers and retailers. This has led to improved grape quality and consumer acceptability, and stronger industry alignment. The project also contributes to the SIP's broader aspirations around industry capability and alignment by building supply chain trust, fostering a shared culture of quality, and facilitating behavioural change through education and feedback mechanisms.

⁸ Hort Innovation, 2024, *Minimum maturity standards adoption across the table grape supply chain*, p. 4.

⁹ Hort Innovation 2022, *Table Grapes Strategic Investment Plan 2017-2021 Performance Report*

Table 1 Project details of TG19004

Project code	TG19004
Title	Minimum maturity standards adoption across the table grape supply chain
Research organisation(s)	Australian Table Grape Association
Project leader	Jeff Scott
Funding period	2020-21 – 2023-24
Objective	To encourage and support the adoption of MMS across the whole table grape supply chain from retailers through to growers

Source: Hort Innovation

Related investments

The project was linked with 2 investments:

- TG19003 Table grape consumer acceptance and attitudes – This investment provided the table grape industry with valuable information on the behaviours and attitudes of consumers towards table grape quality. There was a focus on providing evidence around consumer acceptance levels throughout the season across different locations and retail channels. This project provided the evidence and linkages to establish the relationship between fruit quality and consumer behaviours necessary to demonstrate the MMS would provide benefits.
- TG17002 Table grape supply chain quality 2017-2021. This investment provided support to growers and retailers in adopting and developing grapes of optimal eating quality right from the start of the season. This project provided data on the benchmark and fruit quality necessary for demonstrating the need for and potential impact of the MMS.

Project governance

The governance of TG19004 was underpinned by the establishment of a Project Reference Group (PRG), which played a central role in providing strategic oversight and ensuring alignment with industry needs. The PRG included representatives from major retailers, grower groups, and the Hort Innovation Project Manager. This group met regularly – at the end of each season and the beginning of the next – to review progress, provide input into upcoming activities, and manage any risks. Minutes from these meetings were recorded and circulated, reinforcing transparency and accountability.

A structured project plan supported the governance framework, clearly outlining the key activities, milestones, and outputs across the three-year duration. Milestone reports were submitted in line with contractual requirements, incorporating guidance from both the PRG and the Hort Innovation Project Manager. This ensured that deliverables were tracked systematically and that any necessary course corrections could be made promptly to keep the project on track.

Importantly, the governance model gained strong stakeholder endorsement. Retailers and suppliers expressed confidence in the project's structure and confirmed their support for its continuation beyond the funding period. The collaborative and transparent governance processes were seen as critical to maintaining alignment, driving adoption of the MMS, and safeguarding the gains achieved throughout the project.

Impact pathway

A clear pathway from input to impacts can be identified for the investment. Overall, the investment produced

4 impactful benefits for both levy payers and the broader communities. Table 2 shows the logical pathway to impact of the investment.

Table 2 Impact pathway of TG19004

Pathway	Description
Inputs and activities	<p>Maturity monitoring</p> <p>On-farm maturity monitoring was conducted by variety and by region to encourage fruit not to be harvest before it is mature.</p> <p>Aggregated data was also provided to industry. Retail monitoring was conducted in stores for ALDI, Coles, Costco and Woolworths for the key varieties.</p> <p>The project also developed a 'Retail Sampling Protocol', which was updated as necessary and used to assist retailers with their internal QC inspections.</p> <p>Throughout the project, the delivery team monitors the consumer acceptability level with Project TG-19003: Table Grapes Consumer Acceptance & Attitudes.</p> <p>Maturity monitoring was conducted for individual suppliers, with data compiled from the retailers' DC inspections</p> <p>Encouragement of MMS adoption</p> <p>Both growers and major retailers were encouraged to adopt the MMS through education, communication and monitoring of fruit maturity.</p>
Outputs	<p>Widespread adoption</p> <p>Widespread adoption by the whole table grape supply chain of the MMS protocols for all key maturing monitoring activities, including pre-harvest, on-farm, in-store and in retailer.</p> <p>Maturity results and industry communications</p> <p>Maturity results were published weekly on the online portal for key grape varieties/types and individual benchmarking data provided to key retailers (Homescan Quality Performance Tracker Dec 20 – May 23).</p> <p>Various industry communications through articles in the industry newsletter.</p>
Outcomes	<p>Better quality table grapes and increased consumer satisfaction</p> <p>Higher quality table grapes. By adoption the MMS, the industry has produced table grapes with more consistently high Brix.</p> <p>Increase in consumer acceptability and satisfaction, and as a result, an increase in consumption and demand of Australian table grapes.</p> <p>Higher retail sales</p> <p>Increase in purchase frequency, average weight of purchase (AWOP), returns, profitability and stock-turn frequency.</p> <p>Strengthened industry relationships</p> <p>Strengthened relationships and improved consultation with key stakeholders along the table grape supply chain, particularly the major retailers and key domestic producers</p>
Impacts	<p>Increased value of domestic consumption of table grapes</p> <p>The higher maturity standards in the industry have led to increased value of both domestic consumption and exports of table grapes.</p> <p>Higher quality of table grapes</p> <p>The minimum maturity standard adoption by the table grape industry has improved the quality of table grapes in retail.</p> <p>Avoided waste within the supply chain</p> <p>The adoption of MMS has increased the perceived quality of table grapes products and reduced waste in the supply chain, particularly at the retailer and household levels.</p>

Pathway	Description
	Standard improvement in other fruits The project was also a factor in encouraging other industries to adopt minimum maturity standards. Stakeholders have credited the success of this project to the adoption of MMS in the melon industry. However, it is difficult to determine how large of a factor the table grape MMS played in this decision since there is no data available from the melon industry that could be identified to support the estimate of this.

Source: ACIL Allen, based on TG19004 Final Report

Cost and benefits

Costs

Cost of the investment

The investment was a collaboration between Hort Innovation and the Australian Table Grape Association. Hort Innovation contributed \$1,017,015 in cash and \$143,663 in overheads costs (ex. GST amounts). Table 3 below shows the total nominal cash and in-kind contributions from each partner.

Table 3 Nominal costs of the investment by contributing partners of TG19004

Contribution	2020-21	2021-22	2022-23	2023-24	Total
Hort Innovation – Cash	\$225,928	\$310,821	\$310,821	\$169,445	\$1,017,015
Hort Innovation – Overheads	\$31,021	\$42,487	\$45,339	\$24,816	\$143,663
Total	\$256,949	\$353,308	\$356,160	\$194,261	\$1,160,678

Source: Hort Innovation

The total nominal investment of \$1.16 million is adjusted for inflation to represent the real value of investment. Adjustment for inflation is meant to present historical costs in today's dollars, by making periods comparable by converting nominal values to real values (adjusted for changes in purchasing power due to inflation).

Costs of the investment, in nominal term and real term, are provided in Table 4 below. After converting to real terms, the cost of the investment is \$1.25 million.

Table 4 Real costs of the investment TG19004

Organisation	Hort Innovation	Other contributors	Total
Nominal costs	\$1,160,678	\$0	\$1,160,678
Real costs (\$2025 financial year)	\$1,246,671	\$0	\$1,246,671

Source: ACIL Allen, modelled using ABS's implicit GDP deflator

Benefits

Table 5 below summarises the potential benefits of the investment and categorised them into 3 categories: economic, environmental and social impact. It provides a description of the benefits and how the investment could achieve them. The table also shows the assessment method that was used for each benefit.

Table 5 Summary of potential impacts of TG19004

Type of impact	Assessment	Description
Economic impact	Quantified	<p>Increased value of domestic consumption of table grapes – Intuitively, the higher maturity standard in the industry would lead to increased value of both domestic consumption and exports of table grapes. Since the implementation of the project, an increase in value of table grapes in retail consumption (can be observed in industry data (7,224 kg increase in volume (9% increase) or \$107 million increase in value (33% increase) between 2023-24 and 2018-19).</p> <p>However, there are many factors that would influence the sweetness, and therefore the consumer purchase of grapes ranging from weather patterns to the price and quality of substitution products like berries. It is impossible to isolate the result of the MMS on any changes in domestic consumption with the available data (to support this breakdown, data on production per suppliers, along with amount of yield attributable to weather and other factors need to be robust enough to isolate the effect of increase in retail sale from quality and other factors). This benefit is therefore estimated with a highly conservative assumption to avoid overstating this impact.</p>
Environmental impact	Quantified	<p>Avoided waste within the supply chain – Across the food supply and consumption chain, it is estimated that Australia wastes 7.6 million tonnes of food annually. This is estimated to cost the economy \$36.6 billion each year and accounts for 3% of annual greenhouse gas emissions.¹⁰ The adoption of minimum maturity standards will increase the perceived quality of table grapes products and reduce waste in the supply chain, particularly at the retailer and household levels. This is achieved by encouraging purchasing and consumption of table grapes through higher perceived and actual quality of the products.</p> <p>Furthermore, higher Brix also has been found to inhibit the growth of certain heat-resistant moulds in fruit, potentially lengthening the shelf-life of products.</p>
Social impact	Unquantified	<p>Higher quality of table grapes – The minimum maturity standard adoption by the table grape industry would improve the quality of table grapes. This is evidenced by the data of the table grape acceptability in major retailers (percentage of fruit with Brix larger or equal to 16°) showing that since 2019-20 season, the industry has successfully improved this percentage on average by 10% compared to the benchmark period. This improvement in quality would lead to higher utility of consumers. This increase in utility, however, is difficult to quantify without extensive data on willingness to pay of consumers for the perceived improvement in quality.</p>
	Unquantified	<p>Standard improvement in other fruits – The project was also a factor in encouraging other industries to adopt minimum maturity standards to improve their quality. At the time of analysis, the melon industry was developing minimum quality standards for seedless watermelons, rock melons and honeydew melons, with the overall aim of improving their eating quality. This project is also funded by Hort Innovation (VM21001). This impact is not quantified as the outcome data of these investments was not available at the time of assessment.</p>

¹⁰ Department of Climate Change, Energy, the Environment and Water of Australia, Reducing Australia's food waste. Accessible at <https://www.dcceew.gov.au/environment/protection/waste/food-waste>

Source: ACIL Allen

Data and assumptions

The required data, assumptions and calculations used to estimate the impacts of the investment are presented in Table 6 below. The data were sourced from project data, external sources through literature review, industry data provided by Hort Innovation and other publicly available databases. Assumptions were informed by stakeholder consultations and are designed to be conservative considering the uncertainties underlying the magnitude of the impacts.

Table 6 Data, assumptions and calculations used for TG19004

Data/Assumption	Value, sources and rationale
Data	
Table grape annual retail value	\$314,480,000 (average 5 years from 2018-20 to 2022-23) Hort Innovation, Horticulture Statistics Handbook 2022-23
Number of households in Australia	9,993.9 ABS 2024, Household and Family Projections, Australia. https://www.abs.gov.au/statistics/people/population/household-and-family-projections-australia/latest-release#households
Annual spend at supermarket and grocery store	\$132,864,520,000 ABS 2025, Retail Trade, Australia. https://www.abs.gov.au/statistics/industry/retail-and-wholesale-trade/retail-trade-australia/latest-release
Percentage of spend on food at supermarket and grocery store	70% - 80% This analysis uses 75% as the estimate. ABS 2025, Interpreting the Monthly Household Spending Indicator. https://www.abs.gov.au/statistics/detailed-methodology-information/information-papers/interpreting-monthly-household-spending-indicator
Food waste in Australia at household level	2.5 million tonnes per year \$2,500 in value per household per year Food Innovation Australia 2021, 2021 National Food Waste Strategy Feasibility Study. https://www.fial.com.au/sharing-knowledge/food-waste
Table grape retail market insight data	Based on data provided by NielsenIQ (commercial-in-confidence)
Assumption	
Attribution	Attribution to the project: 79%, based on the nominal costs of the investment as a proportion to total nominal costs of related investments.
Counterfactual	The project requires a high level of coordination and direction from a peak body organisation to ensure that the MMS is adopted and implemented from the producer level to the retail level. This means that the outcomes of the project are unlikely to be achieved by organisations other than Hort Innovation and the Australian Table Grape Association. The counterfactual scenario can be assessed as there is a very low likelihood the project would be undertaken.
Adoption	Remains steady at 80% of growers adhering to the MMS. Since completion of the project in 2022-23, the MMS is assumed to have already achieved a high adoption by growers. Stakeholders' input suggests that the industry will not require further compliance monitoring.

Data/Assumption	Value, sources and rationale
Cost of adoption by growers and industries	It is assumed that there are minimal costs by growers to adopt the MMS as there is no additional work required. There are some costs by retailers to ensure MMS compliance, however, no data could be gathered on this. These costs are expected to be small as retailers typically already undertake quality assurance processes.
Increase in retail value of table grapes due to MMS	Based on data provided by NielsenIQ. (commercial-in-confidence)
Reduction in table grapes waste at the consumer level	5% Conservative assumption by analyst.
Proportion of consumers make repeat purchase due to quality increase	57.5% Dipesh P. Patel, A Study on the Consumer Behaviour & Repeat Purchases with reference to Selected FMCG Brands. Assistant Professor
Confidence level	75% Data provided by NielsenIQ to ACIL Allen on consumer purchasing behaviour for table grapes in Australia shows relatively small changes. The behaviour changes could also be influenced by other factors. Due to these reasons, there's a medium confidence level for the impacts. Furthermore, in seasons with factor influencing the quality of grapes, such as weather, the MMS will need to be reduced and will have an impact on the magnitude of the increase in retail value of table grapes. However, stakeholders have expressed that the monitoring component of the project is critical in getting higher quality table grapes to the consumers, and without the project, it's likely that the impacts would not be realised.
Calculation	
Spend on table grapes as percentage of spend on food	<i>Table grape annual retail value / (Annual spend at supermarket and grocery store x Percentage of spend on food at supermarket and grocery store)</i>
Table grape food waste at household level	<i>Spend on table grapes as percentage of spend on food / Food waste in Australia at household level</i>
Increase in retail value of table grapes	<i>Increase in retail value of table grapes assumption x Proportion of consumers make repeat purchase due to quality increase</i>
Reduction in table grapes waste at the consumer level	<i>Reduction in table grapes waste at the consumer level x Table grape food waste at household level</i>

Source: ACIL Allen

Net impact

A summary of the net impact of the investment is presented in Table 7. The results show that, taking all quantified costs and benefits into account, the investment produced a positive net result. The investment has an NPV of \$1.47 million and a BCR of 2.18 at 30 years after investment completion using 5% discount rate.

Hort Innovation has been attributed 100% of the impacts as it was sole funder.

Table 7 Net impact results of TG19004

	Years after investment completion						
	0	5	10	15	20	25	30
Whole investment							
PV of Costs (\$m)	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
Benefits (\$m)	\$0.00	\$0.82	\$1.67	\$2.52	\$3.37	\$4.22	\$5.08
PV of Benefits (\$m)	\$0.00	\$0.74	\$1.35	\$1.82	\$2.20	\$2.49	\$2.72
NPV (\$m)	-\$1.25	-\$0.50	\$0.10	\$0.58	\$0.95	\$1.24	\$1.47
BCR	0.00	0.60	1.08	1.46	1.76	2.00	2.18
IRR	Negative	Negative	3.8%	9.7%	11.7%	12.6%	13.0%
MIRR	Negative	Negative	4.4%	7.1%	7.7%	7.8%	7.6%
Attributable to Hort Innovation							
PV of Costs (\$m)	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
Benefits (\$m)	\$0.00	\$0.82	\$1.67	\$2.52	\$3.37	\$4.22	\$5.08
PV of Benefits (\$m)	\$0.00	\$0.74	\$1.35	\$1.82	\$2.20	\$2.49	\$2.72
NPV (\$m)	-\$1.25	-\$0.50	\$0.10	\$0.58	\$0.95	\$1.24	\$1.47
BCR	0.00	0.60	1.08	1.46	1.76	2.00	2.18
Attributable to Hort Innovation							
IRR	Negative	Negative	3.8%	9.7%	11.7%	12.6%	13.0%
MIRR	Negative	Negative	4.4%	7.1%	7.7%	7.8%	7.6%

Source: ACIL Allen

Sensitivity analysis

Sensitivity analysis was conducted to test the robustness of susceptibility of the analysis to key assumptions and parameters. Given the uncertainty of a number of assumptions used in this CBA, sensitivity testing is important to determine the appropriateness of underlying assumptions.

The results of the sensitivity analysis are presented in Table 8 below.

Table 8 Sensitivity analysis results of TG19004

	NPV	BCR	IRR	MIRR
Under standard assumptions (Central case assumptions and 5% discount rate)	\$1.47	2.18	13.0%	7.6%
3% discount rate	\$2.37	2.90	13.0%	7.6%
7% discount rate	\$0.98	1.79	13.0%	7.6%
Low adoption (starts at 50% and reach 70% in 5 years)	\$1.06	1.85	10.6%	7.0%
High adoption (starts at 80% and reach 90% in 5 years)	\$1.81	2.45	14.8%	8.1%

Low increase in table grapes retail value (Central scenario -50%, Commercial in confidence)	\$0.13	1.10	5.3%	5.1%
High increase in table grapes retail value (Central scenario +50%, Commercial in confidence)	\$2.81	3.26	19.7%	9.1%
Low reduction in table grapes waste (Central scenario -50%)	\$1.45	2.17	12.9%	7.6%
High reduction in table grapes waste (Central scenario +50%)	\$1.48	2.19	13.1%	7.6%
Low confidence (Central scenario -50%)	\$0.56	1.45	8.0%	6.1%
Low confidence (Central scenario -50%)	\$2.38	2.91	17.6%	8.7%

Source: ACIL Allen

Key findings

The following key findings have been identified for this assessment:

- While many other factors affect the quality and sales of table grapes, such as price of other substitution products like berries and weather conditions, the MMS has been identified as an important standard to uphold within the industry that would benefit the entire supply chain from growers to retailers to consumers.
- The challenges associated with the project is to get growers to understand the importance of the MMS and the benefits of a collective industry approach in adhering to it. Individual growers face an agency problem where they would benefit individually from releasing less mature grapes to the market, but it comes at the expense of other parties including other growers, retailers and consumers.
- The ideal outcome for the MMS is for the industry to adhere to the standard without monitoring and enforcement. While the industry has not yet reached this stage, ensuring the MMS is met is important.
- Other industries such as melons could benefit from adopting their own MMS, ensuring that consumers are getting high quality fruit that will encourage repeat purchase, benefiting both growers and retailers.

Consultations

The following stakeholders were consulted on this assessment:

- Bianca Cairns, Hort Innovation
- Jeff Scott, Australian Table Grape Association
- Liam Hawke, NielsenIQ
- David Welfare, Aldi.

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