Sweetpotato

Strategic Investment Plan

2022-2026



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EXECUTIVE SUMMARY

The overarching strategic intent of this Strategic Investment Plan (SIP) is to support category growth and production efficiencies for Australian sweetpotato growers.

The sweetpotato SIP 2022-2026 provides a roadmap to guide Hort Innovation's investment of sweetpotato industry levies and Australian Government contributions, ensuring investment decisions are aligned with industry priorities.

The Australian sweetpotato industry situation in 2019/20 is described on *page 4* with further information provided in *Appendix 1*. The industry has expanded significantly, achieving 95% growth in production and 60% in value since 2012/13. 88% of production is based in Queensland, with the major growing region being Bundaberg, followed by significantly smaller production areas of Atherton Tablelands and the Lockyer Valley. An additional 11% of production is in northern NSW in the Cudgen growing region.

Fresh domestic demand continues to be the main focus of the industry, which accounts for 89% of the Australian sweetpotato market. Opportunities are now expanding in the processing sector (currently 9% of production) along with potential niche export opportunities to be further identified and developed in the coming years. Both will assist in improving the market diversification for the Australian sweetpotato industry.

The strategic intent of the sweetpotato SIP provides a summary of how the sweetpotato industry will drive change over the life of the SIP. Ultimately this will come about by growing the category, along with growers having access to the tools required for production efficiencies, while meeting the quality demands of consumers both domestically and internationally.

The financial estimates give an indicative overview of the funding availability for the period of FY2022-FY2026.

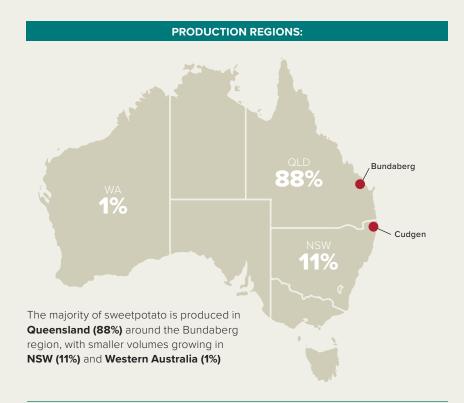
Currently the sweetpotato research and development (R&D) fund has capacity to invest throughout the life of the SIP.

Careful prioritisation of investment needs are required by the sweetpotato industry to allocate these funds to new projects.

The four outcome areas of this SIP cover significant themes under which programs and investments will be focused. These are listed in priority order for the sweetpotato industry. Domestic demand is the highest priority for the industry as production continues to expand, while maintaining steady value and exploratory development on trade market opportunities. Under the outcome of productivity, best management practices (BMPs), variety evaluations, production quality improvements and pest and disease management cover priority areas, with extension and communication of information, particularly from these priority areas, key to the industry's success. Water continues to be a valuable commodity, particularly within the Bundaberg region with competing fruit and vegetable crops.

The key performance indicators (KPIs) detail how the impact of each strategy will be measured, for example, increased consumer awareness of the Australian Sweet Potatoes brand; growth of new export markets; new knowledge; tools and technical support for production efficiencies; and new knowledge of varieties from global programs under Australian growing conditions.





PRODUCTION WINDOW:



with higher volumes between February – June

NUMBER OF GROWERS:



VARIETIES:

Gold

Red (Northern Star) Purple 7%

PRODUCTION VOLUMES:



in 2019/20

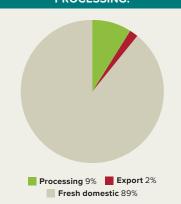
FARMGATE VALUE:



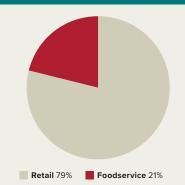
PER CAPITA CONSUMPTION:

in 2019/20

EXPORT/FRESH DOMESTIC/ PROCESSING:



RETAIL VS FOODSERVICE:



GROWTH TRENDS:

SINCE 2012/13...



With 95% growth in production and **60% growth in value** since 2012/2013, sweetpotato is increasing as a preferred vegetable product

THE SWEETPOTATO STRATEGIC INVESTMENT PLAN

The sweetpotato SIP is the roadmap that will guide Hort Innovation's oversight and management of the sweetpotato industry's investment programs. It lays the foundation for decision-making in investments and represents the balanced interest of the whole industry. The important function of this SIP is to ensure that the investment decisions align with sweetpotato industry priorities.

Hort Innovation has led the process for preparing the refresh of the sweetpotato SIP, listening and engaging with levy payers and key stakeholders including Industry Representative Bodies (IRBs) and expertise available through advisory mechanisms and delivery partners. The refresh process involved consultation with and input from a wide range of levy payers, objective analysis of performance and learning from the previous SIP, as well as environmental scanning to identify emergent trends and issues that could impact on industry profitability and sustainability.

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

The whole-of-company approach taken by Hort Innovation to produce this SIP has harnessed existing external and internal knowledge, learning, partnerships and relationships. The output is a tailored plan with which the sweetpotato industry can be confident of its strategic intent, including visibility on how investment impacts will be identified. Specific investments to address the SIP strategies and align with industry strategic priorities will be outlined in detail via the sweetpotato Annual Investment Plan (AIP). The AIP will be published each year over the lifespan of the SIP and detail the investments that will be prioritised based on potential industry impact, as well as the availability of levy funds. Hort Innovation will advise industry stakeholders when the AIP has been published via established communication channels each year. The AIP will be developed with input from the sweetpotato Strategic Investment Advisory Panel (SIAP), IRBs and other key stakeholders.

Producers in the sweetpotato industry pay levies to the Department of Agriculture, Water and the Environment, which is responsible for the collection, administration and disbursement of levies and charges on behalf of Australian agricultural industries. Agricultural levies and charges are imposed on primary producers by government at the request of industry to collectively fund R&D, marketing, biosecurity and residue testing programs.

Levy is payable on sweetpotato that is produced in Australia and either sold by the producer or used by the producer in the production of other goods. The sweetpotato R&D levy is set at 0.485% of the sale value. The marketing levy is set at 1% of the sale value.

Hort Innovation manages the sweetpotato levy funds proportion directed to R&D (0.485% of the sale value), and separately Plant Health Australia (PHA) manages plant health programs (0.015% of the sale value).

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

This SIP represents the Australian sweetpotato industry's collective view of its R&D and marketing needs over the next five years (2021-2026). Learning, achievements and analysis of the previous SIP, consultation with Australian sweetpotato levy payers, and synthesis of various strategic documents have been incorporated into the development of this SIP. *Appendix 3* acknowledges the people who were consulted in the preparation and validation of this SIP. Statistics and data within this publication are sourced from the Australian Horticulture Statistic Handbook 2019/20 and other documents unless stated otherwise and are listed in *Appendix 4*. A list of acronyms used within the document is available in *Appendix 5*.

Financial estimates

The annual revenue from levy income and Australian Government contributions for eligible R&D set the overall budget parameters for this SIP. Importantly, a portion of these funds is already committed, as the industry has current multi-year projects for R&D and marketing activities. In addition, the levy income from year to year will vary due to changes in seasonal and market conditions.

The financial estimates used for the purpose of developing this SIP are presented in *Table 1* below and are indicative. The intention of the table is to offer a strategic overview of the industry fund at a specific point in time, and the figures will be regularly reviewed to reflect the latest information for the industry and any changes in investment priority. Further details will be available within the AIP each year.

TABLE 1. Indicative financial estimates for the sweetpotato SIP over the life of the SIP

| | 2022 \$ | 2023 \$ | 2024 \$ | 2025 \$ | 2026 \$ |
|------------------------------------|------------|------------|------------|------------|------------|
| | | R&D | | | |
| Balance end FY2021 | 1,125,289 | | | | |
| Estimated levy funds (growers) | 480,000 | 480,000 | 480,000 | 480,000 | 480,000 |
| Australian Government contribution | 987,000 | 840,000 | 580,000 | 530,000 | 460,000 |
| Current investments | 873,000 | 542,000 | 94,000 | 105,000 | - |
| New investments | 800,000 | 700,000 | 700,000 | 600,000 | 600,000 |
| Total project investments | 1,673,000 | 1,242,000 | 794,000 | 705,000 | 600,000 |
| CCR | 290,615 | 215,746 | 137,925 | 122,465 | 104,225 |
| Projected end balance | 611,000 | 245,000 | 137,000 | 86,000 | 96,000 |
| | MA | RKETING | | | |
| Balance end FY2021 | 1,100,000 | | | | |
| Estimated levy funds (growers) | 950,000 | 950,000 | 950,000 | 950,000 | 950,000 |
| Current investments | 280,000 | 36,000 | 10,000 | 10,000 | 10,000 |
| New investments | 1,000,000 | 800,000 | 800,000 | 800,000 | 800,000 |
| Total project investments | 1,280,000 | 836,000 | 810,000 | 810,000 | 810,000 |
| CCR | 262,912 | 171,715 | 166,374 | 166,374 | 166,374 |
| Projected end balance | 605,000 | 513,000 | 440,000 | 361,000 | 276,000 |

Disclaimer: All figures are indicative only and may change depending on actual income and expenditure.

Balance end FY2021 – The closing balance of the fund as at 30 June 2021

Projected end balance – Forecast of the anticipated final position of the fund

Estimated levy funds – Net levy income/revenue that is generated and collected by levy revenue services (LRS)

Australian Government contribution – Amount of contribution from the Australian Government on R&D levy-funded expenditure Current investments – Current estimated value of contracted projects

New investments – The estimated dollar value that is available for potential new investments for industry subject to industry advice CCR – Corporate cost recovery: the cost to implement and manage R&D and marketing investment programs for each industry

HORT INNOVATION SWEETPOTATO STRATEGIC INVESTMENT PLAN – 2022-2026





The overarching strategic intent of this SIP is to support category growth and production efficiencies for Australian sweetpotato growers.

Industry outcomes

Outcome statements as identified and prioritised by the sweetpotato industry have been prepared under four key outcome areas: demand creation; industry supply, productivity and sustainability; extension and capability; and business insights.

OUTCOME 1: Demand creation

Contribute to improving consumer knowledge, attitudes, and purchase intent to drive volume growth.

Demand creation will support industry to develop existing and future domestic and international markets.

The strategic intent of this outcome is to strengthen consumer demand, as the foundation for sustainable expansion of production and consumption in both domestic and international markets. This will contribute to improved consumer knowledge and attitudes, in addition to encouraging purchase intent to drive category volume growth. It means the industry is investing to:

- Broaden consumer awareness so that sweetpotatoes are top of mind and purchased more frequently
- Build a strong brand in 'Australian Sweetpotatoes' by improving awareness, consideration, attitudes and knowledge
- Develop strong relationships across the supply chain with a shared goal to grow the category
- Identify and prioritise export and domestic market niches where there is demand and growth potential for competitive supply
- Support product positioning with consistent quality, evidence of beneficial product nutrition attributes and responsible industry production practices.

OUTCOME 2: Industry supply, productivity and sustainability

Improve industry productivity (inputs/outputs) to maintain local and international competitiveness, while maintaining viability and sustainability of supply.

Supply and productivity will be supported through improvements to production efficiencies that will drive profitability outcomes, while ensuring long-term sustainability outcomes.

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

- Developing fit-for-purpose sustainable pest and disease management strategies
- Access to superior cultivars for efficient production that matches consumer quality expectations
- Accessing and leveraging world-class R&D and know-how on production
- Product positioning supported by consistent quality and evidence of beneficial product nutrition attributes and responsible industry production practices
- Development of data packages to access new markets as determined through export strategy
- Proactively monitoring potential crop protection regulatory threats and having access to a broader suite of effective, socially acceptable and environmentally sound crop protection solutions.

OUTCOME 3: Extension and capability Building capability and innovative culture.

Building capability and innovative culture will support industry to make use of investment outputs across the supply and demand initiatives to better manage risk and create positive change.

The strategic intent of this outcome is to manage knowledge, relationships, systems and processes required to communicate effectively with internal and external stakeholders. Achieving the outcome will involve:

- A change in awareness and knowledge of R&D findings and proven BMPs that support practice change for grower/industry profitability and sustainability
- Raising awareness of opportunities and pathways for businesses to be involved in meeting demand in new export markets
- Proactive strategic and evidence-based decision-making in businesses and for industry on investment, priorities and risk management.

OUTCOME 4: Business insights

Measure industry supply (production) and demand (consumer behaviour) data and insights to inform decision-making.

Business insights will support the industry to remain aware of market and industry trends to drive informed decision-making.

The strategic intent of this outcome is to deliver data and insights which is foundational to achieving success in the other three outcome areas of demand creation; industry supply, productivity and sustainability; and extension and capability.

Achieving the outcome will involve reliable baseline data and analysis to provide insights and understand current and emerging trends. Key investments will support the provision of consumer knowledge and tracking, access to trade data, independent reviews, production statistics and forecasting to enable better decision-making process at industry level and individual businesses.

These investments underpin and are complementary to the delivery of the other outcome areas as decisions informed by high-quality information and analysis are likely to lead to better outcomes.



SWEETPOTATO INDUSTRY STRATEGIES



Strategies to address industry investment priorities

The strategies and identified impacts for each of the key outcome areas are described in the tables below. The highest priority investments lay the foundation for the SIP, and its implementation will require a balanced approach to ensure the industry has a high likelihood of success over the short term (0-3 years), medium term (3-5 years) and long term (5-10 years).

The ability to deliver on these strategies (and subsequent investments) will be determined by the ability of the statutory levy to provide the resources to do so. Further resources and efficiencies may potentially become available through alternative funding sources by way of Hort Frontiers strategic partnership initiative, external grants and/or cross-industry initiatives.

OUTCOME 1: Demand creation

Demand creation supports the Australian sweetpotato industry to develop existing and future domestic and international markets.

| STRATEGIES | POTENTIAL BENEFIT OR IMPACT |
|--|---|
| Increase domestic consumer demand for fresh Australian sweetpotatoes through improving knowledge, attitudes and purchase intent | Increased consumer demand for Australian sweetpotatoes Increased awareness of the health benefits of sweetpotatoes |
| Develop trade with new and established export markets – Brunei, Thailand, the European Union, Taiwan, United Arab Emirates and Singapore | Maintained and/or improved international market access Increased understanding of export opportunities amongst growers |
| Collaborate with government and other industries to gain technical access to new, high value markets | Increased demand internationally for Australian sweetpotatoes |



OUTCOME 2: Industry supply, productivity and sustainability

The Australian sweetpotato industry has increased profitability, efficiency and sustainability through innovative R&D, sustainable BMPs and varieties.

| STRATEGIES | POTENTIAL BENEFIT OR IMPACT |
|--|---|
| Identify and evaluate sweetpotato varieties that have superior agronomic performance and product quality attributes that meet consumer requirements | Increased productivity and/or profitability for Australian sweetpotato growers |
| Support innovations in sweetpotato growing systems for sustainable production | Increased marketable yield per hectare Enhanced on-farm biodiversity Resilient, regenerative, sustainable production systems with improved soil health and water-use efficiency Reduced risk to the off-farm environment |
| Develop and optimise fit-for-purpose pest and disease management strategies | Crop loss reduced by sustainable pest and disease practices |
| Improve industry preparedness and resilience to biosecurity threats | Maintained business continuity and market access during an exotic pest incursion by encouraging industry support for management actions (eradication, containment, transition to management) |
| | Improved systems approach that show effective biosecurity protocols and processes, supporting access to domestic and export markets |
| 5. Prioritise the major crop protection gaps through a Strategic Agrichemical Review Process (SARP)* | Available registered or permitted pesticides are evaluated for overall suitability against major disease, insect pests and weed threats. The SARP aims to identify potential future solutions where tools are unavailable or unsuitable |
| 6. Support and co-ordinate crop protection regulatory activities with the potential to impact plant protection product access, both in Australia and internationally* | Regulatory Risk Assessments have informed proactive strategic priority setting to avoid pest management gaps in the event access or use is negatively impacted |
| 7. Generate residue, efficacy and crop safety data to support applications to the Australian Pesticides and Veterinary Medicines Authority (APVMA) that seeks to gain, maintain or broaden access to priority uses for label registrations and/or minor use permits for crop protection needs* | Crop protection solutions to meet industry priority needs as identified in the industry SARP or biosecurity plan |

OUTCOME 3: Extension and capability

Improved capability and an innovative culture in the Australian sweetpotato industry maximises investments in productivity and demand.

| STRATEGIES | POTENTIAL BENEFIT OR IMPACT |
|--|---|
| Deliver communication and extension capability to create positive change in the areas of sustainable production, pest and disease management, biosecurity, soil health and trade development | A change in knowledge, attitude, skills, aspiration (KASA) and practice for grower and industry profitability and sustainability through use of BMPs and innovation |
| Strengthen industry leadership through initiatives and training | Proactive strategic and evidence-based decision-making in businesses and for industry on investment, priorities and risk management |

OUTCOME 4: Business insights

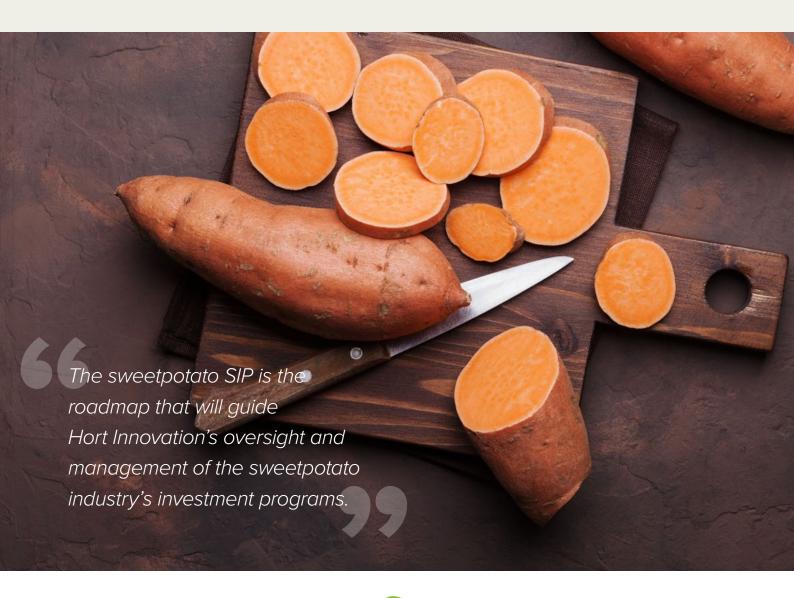
The Australian sweetpotato industry is more profitable through informed decision-making using consumer knowledge and tracking, trade data, production statistics and forecasting and independent reviews.

| STRATEGIES | POTENTIAL BENEFIT OR IMPACT |
|---|--|
| Increase industry alignment with quality and brand- positioning opportunities driven by consumer insights* | Business insights provided to deliver against demand, supply and extension outcomes |
| Use trade data to guide ongoing export development opportunities* | Increased knowledge and scientific/research capacity |
| Use production forecasts to inform long-term and/or in-season market planning and supply strategies | Increased industry or other stakeholder capacity (e.g., export capacity) |

^{*} Foundational investments provide data and information that underpin the delivery of other SIP outcome areas and will be aligned to this strategy.

Foundational investment areas include:

- Consumer behavioural data
- Consumer usage and attitudes, and brand health tracking data
- Impact assessments
- Trade data
- Crop protectant data.



SWEETPOTATO SIP MONITORING AND EVALUATION



The sweetpotato SIP Monitoring and Evaluation (M&E) Framework development has been informed by Hort Innovation's Organisational Evaluation Framework.

Progress against the SIP will be reported in Hort Innovation publications and through industry communication channels. The SIP outcomes and strategies are used to inform KPIs that in turn drive the investments and individual projects to deliver on the SIP. Projects responsible for delivering the strategy aligned with each KPI will collect the data.

An M&E and reporting framework is shown below. The framework shows what will be measured to demonstrate progress against the plan and how metrics will be tracked. Reporting on KPIs will be processed through various formal channels to inform industry and government investors of progress, performance, and impact. Data sources to support M&E will be identified and collected as part of the requirements for each levy investment.

Hort Innovation will facilitate the regular review of the SIP to ensure they remain relevant to industry.

Sweetpotato SIP Monitoring and Evaluation Framework

The sweetpotato SIP M&E Framework is shown below. It includes KPIs and data collection methods both at a macro/industry (trend) level and at more specific SIP strategic level/s.

| ОUTCOME | STRATEGIES | KPIs |
|---|---|--|
| Demand creation | | |
| Outcome 1: Demand creation supports the Australian sweetpotato industry | Increase domestic consumer demand for fresh Australian sweetpotatoes through improving knowledge, attitudes and purchase intent | Positive influence on consumer preference Use of nutritional information to support increase in consumer demand |
| to develop existing and future domestic and international markets. | Develop trade with new and established existing export markets – Brunei, Thailand, the European Union, Taiwan, United Arab Emirates and Singapore | Increased grower awareness of export opportunities Growth in the export market share of production Development of an export strategy for new markets |
| | Collaborate with government and other industries to gain technical access to new, high value markets | Support of technical access to selected export markets |



| OUTCOME | STRATEGIES | KPIs |
|---|--|---|
| Industry supply, product | ivity and sustainability | |
| Outcome 2: The Australian sweetpotato industry has increased | Identify and evaluate varieties that have superior agronomic performance and product quality attributes that meet consumer requirements | Availability of new knowledge on the performance of elite varieties from global programs under Australian conditions |
| profitability, efficiency and sustainability through innovative R&D, sustainable BMP and | Support innovations in sweetpotato growing systems for sustainable production | Feasibility of new growing systems established and evaluated in collaboration with growers |
| varieties. | Develop and optimise fit-for-purpose pest and disease management strategies | Development of pest and disease management strategies that mitigate crop loss in collaboration with growers |
| | Improve industry preparedness and resilience to biosecurity threats | Maintenance/tracking of the implementation of an industry biosecurity plan |
| | | Development of contingency plans for exotic pests including business and market access continuity plans and the development of an 'owner cost reimbursement' framework |
| | | Development of risk analyses of high priority pests including entry pathways, establishment and spread potential |
| | 5. Prioritise major crop protection gaps through a SARP* | Coordinated industry priority setting with a clear outlook of gaps and risks in existing pest control options |
| | | Industry priority needs are published and shared with stakeholders, including registrants. |
| | 6. Support and co-ordinate crop protection regulatory activities with the potential to impact plant protection product access, both in Australia and internationally* | Regulatory Risk Assessments maintained |
| | 7. Generate residue, efficacy and crop safety data to support applications to the Australian Pesticides and Veterinary Medicines Authority (APVMA) that seeks to gain, maintain or broaden access to priority uses for label registrations and/or minor use permits for crop protection needs* | Data to support applications to the APVMA and the establishment of Maximum Residue Limits (MRLs) |
| Extension and capability | | |
| Outcome 3: Improved capability and an innovative culture in the Australian sweetpotato industry | Deliver communication and extension capability to create positive change in the areas of sustainable production, pest and disease management, biosecurity, soil health and trade development | Increased engagement, awareness and knowledge of R&D project outputs especially in relation to sustainable production, pest and disease management biosecurity, soil health and trade development |
| maximises investments in productivity and demand. | Strengthen industry leadership through initiatives and training | Increased participation in industry leadership initiatives |

| оитсоме | STRATEGIES | KPIs |
|--|---|---|
| Business insights | | |
| Outcome 4: The Australian sweetpotato industry is more profitable through informed decision-making using | Increase industry alignment with quality and brand positioning opportunities driven by consumer insights* | Delivery of consumer insights strategy Evidence that consumer insights inform market engagement (e.g., case studies) New consumer knowledge available for growers |
| consumer knowledge and tracking, trade data, production statistics | Use trade data to guide ongoing export development opportunities* | Maintained trade data and tailored data outputs supplied that meet stakeholders needs |
| and forecasting and independent reviews. | Use production forecasts to inform long- term and/or in-season market planning and supply strategies | Availability of production forecasts Evidence that production forecasts support marketing and production decisions |

^{*} Foundational investments provide data and information that underpin the delivery of other SIP outcome areas and will be aligned to this strategy. Foundational investment areas include:

- Consumer behavioural data
- Consumer usage and attitudes, and brand health tracking data
- Impact assessments
- Trade data
- Crop protectant data.

Reporting framework

Hort Innovation will use dynamic reporting aligned to the Organisational Evaluation Framework to report regularly on progress and performance. Reporting will be processed through formal channels to inform industry and government investors.

A review of investment performance against the respective industry outcome and/or strategy-level KPIs for the sweetpotato SIP will be completed annually as the primary reporting mechanism. The SIP performance report will provide:

- Evidence of progress towards achieving the industry-specific outcomes and strategies through an assessment of the KPIs identified in the SIP
- Evidence of progress towards cross-industry investment strategies and outcomes. This will involve Hort Innovation's whole-of-horticulture reporting obligations and corporate plan, annual reports and Hort Innovation's Annual Operating Plan.

SIP performance reports will also inform the Australian Government of progress towards achieving government priorities. In particular, reporting will support Hort Innovation to meet the Performance Principles and requirements contained in the Deed of Agreement 2020-2030.



COLLABORATION AND CROSS-INDUSTRY INVESTMENT



Based on advice from industry throughout the engagement process, Hort Innovation understands that Australian horticulture industries have common issues, and in turn we have identified prospective areas for collaboration and cross-industry or regional investment.

These opportunities have been included as strategies across multiple industry SIPs where relevant and required. By delivering targeted multi-industry collaboration in research, development and extension (RD&E), marketing and international trade, Hort Innovation aims to support more effective and efficient outcomes for growers and the wider horticulture sector. Where cross-sectoral priorities are identified Hort Innovation will seek to work with other Research and Development Corporations (RDCs) and cross-RDC initiatives such as the Plant Biosecurity Research Initiative. This includes driving investment through the Hort Frontiers strategic partnership initiative. Importantly, while this approach acknowledges there is value in solving issues across industries and regions, it does not reduce the importance of industry-specific initiatives.

Cross-industry/regional opportunities identified for the sweetpotato industry include:

- Nutritional health benefits
- Quality freshness in supply chain
- International market access and demand.

Cross-industry areas of collaboration for demand driving outcomes provide the opportunity to advance the prosperity of the sector through gaining efficiencies in the delivery of the program and contributing to stronger overall outcomes. By collaborating as one sector to win the hearts and minds of the consumers, in addition to individual demand driving programs, there is the potential to enhance the total category value proposition, contributing to driving returns for Australian growers.

Areas of consideration for collaboration for demand driving outcomes across the lifespan of the sweetpotato SIP 2022-2026 include:

 All-of-horticulture consumer marketing campaigns designed to drive awareness, consideration, and purchase behaviour change

- Communications to bring horticulture to top of mind (saliency) and reposition the benefits they provide to Australian and international consumers
- Retail partnerships to advance total category and shopper demand-driving programs
- A global brand platform to reinforce the unique selling proposition of Australian-grown horticultural produce and drive preference with international consumers.

These opportunities particularly relate to the outcome areas of demand creation; extension and capability; and business insights.

Strategic science and research focus

Collaboration across the agriculture research community is essential, including with IRBs and organisations such as the CSIRO, universities, private enterprise and state government agencies. Hort Innovation is a member of the National Horticulture Research Network (NHRN) together with other senior horticultural R&D representatives from state and Australian Government agricultural agencies. The NHRN is responsible for the development and implementation of the broader Horticulture RD&E Strategy under the National Primary Industries RD&E Framework.

During the engagement process, key delivery partners were contacted including lead agencies within the NHRN framework as well as specific delivery partners for each industry. The lead agency involved with the sweetpotato industry investment program, Department of Agriculture and Fisheries, Queensland (DAFQ), was engaged during the development of this SIP to ensure consideration and strategic alignment of priorities for the sweetpotato industry. In addition, strategic priorities and opportunities identified by Australian Sweetpotato Growers Inc. have been considered in the development of the sweetpotato SIP where applicable.

TABLE 2. Government and key agency priorities

| Australian Sweetpotato Growers Inc. strategic priorities | NHRN priorities (DAFQ) | Rural RD&E for Profit priorities | Australian Government Science and Research priorities |
|--|---|--|--|
| Coordinate research and development activities Grower engagement Marketing and promotion | Viruses – detection methodology – new genetics and production efficiencies Soil health, control of pests and disease Export and domestic market development | Advanced technology Biosecurity Soil, water and managing natural resources Adoption of R&D | Food Soil and water Advanced manufacturing Environmental change Health |

This SIP has been developed alongside the government and key agency priorities listed in *Table 2*, with consideration of issues faced by the sweetpotato industry. These strategic areas further emphasise the opportunity and importance of cross-industry and regional collaboration. All the priority areas are of importance to Australian horticulture, and these will play a role in driving the efficiency and effectiveness of investment across the sector.

Annual investment planning

Specific investments to address the SIP strategies and align with industry strategic priorities will be outlined in detail each year via the sweetpotato AIP. Investment decisions are guided by the SIP and prioritised based on potential industry impact, as well as the availability of levy funds each year. The AIP will be developed with input from the sweetpotato SIAP, which is made up of growers and other industry representatives as well as IRBs and other key stakeholders. Wherever possible, investments will be aligned to form multi-industry projects to increase the efficiency of funding availability. Details of the SIAP can be found on the Hort Innovation website here, and the AIP will be published on the same page each year.

Investment opportunities through Hort Frontiers

Innovation is key to the future success of Australian horticulture. The next evolution of the long-range, higher risk and transformational R&D that has the potential to make a significant impact will be possible through Hort Innovation's Hort Frontiers strategic partnership initiative.

Hort Frontiers is a strategic partnership initiative that facilitates collaborative, cross-industry investments focused on the longer term and more complex themes identified as critical for Australian horticulture by 2030. The partnership framework is currently being established and will include a number of key investment themes for potential investment to guide the initiative and drive transformational R&D across horticulture. Key investment themes will include:

- Environmental sustainability (water, soil and climate)
- Pollination
- Green cities
- Biosecurity
- Health, nutrition and food safety
- Advanced production systems
- International markets
- Leadership
- Novel food and alternate uses (waste reduction).

The development of these areas for investment will benefit all of horticulture, with support from partners with aligned priorities to co-invest in deliverables identified that require alternative funds available outside the levy. Hort Frontiers is being developed

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to align with the Australian-grown Horticulture Sustainability Framework and to invest in specific impact areas to drive innovation and sustainability initiatives.

The sweetpotato industry views a number of these investment areas as opportunities for success into the future, including:

- Advanced production systems
- Environmental sustainability (water, soil and climate)
- · Health, nutrition and food safety
- International markets
- Leadership.

Partnering with Hort Frontiers on these areas would provide the sweetpotato industry with opportunities for access to world-class research, specialised project management teams and large-scale R&D. Individual investment themes will be agile and responsive to industry transformational priorities.

Australian-grown horticulture sustainability framework

Hort Innovation has developed the Australian-grown Horticulture Sustainability Framework, aiming to strengthen the horticulture industry's sustainability to meet the changing expectations and needs of growers, consumers, the community, investors and governments. The framework applies across the whole of Australian horticulture, including fruits, vegetables, nuts, nursery stock and turf. Through widespread consultation with industry and external groups, proposed sustainability goals and indicators were identified and are detailed within the framework. The framework is aligned to the UN Sustainable Development Goals.

Four key pillars were identified in the framework (Figure 1).

Nourish & Nurture
Food to nourish people Plants to nurture communities Safe, traceable, quality

Planet & Resources

Less Waste
Landscapes Climate Energy Biosecurity

Rourish & People & Enterprise
Productive, profitable growers Safe & ethical work Leadership & governance Innovation
Thriving communities
Trade & economic value

Less Waste
Food waste
Packaging
Farm waste

The framework should be cross-referenced when undertaking prioritisation of investments. At the time of publication, Hort Innovation is working with industry groups regarding the overall responsibility for the framework, setting and reporting progress against the framework targets and performance measures.

View the Australian-grown Horticulture Sustainability Framework on the Hort Innovation website here.

Table 3 provides an example of a sweetpotato SIP strategy that illustrates how the industry is already aligning to the framework.

TABLE 3. A sweetpotato SIP strategy example showing how the industry is already aligning to the Australian-grown Horticulture Sustainability Framework

| STRATEGY | ІМРАСТ | SUSTAINABILITY GOAL |
|--|---|---------------------|
| Innovation in sweetpotato growing systems for sustainable production | Resilient, regenerative, sustainable production systems with improved soil health and water-use efficiency Enhanced on-farm biodiversity Reduced risk to the off-farm environment | Planet & Resources |

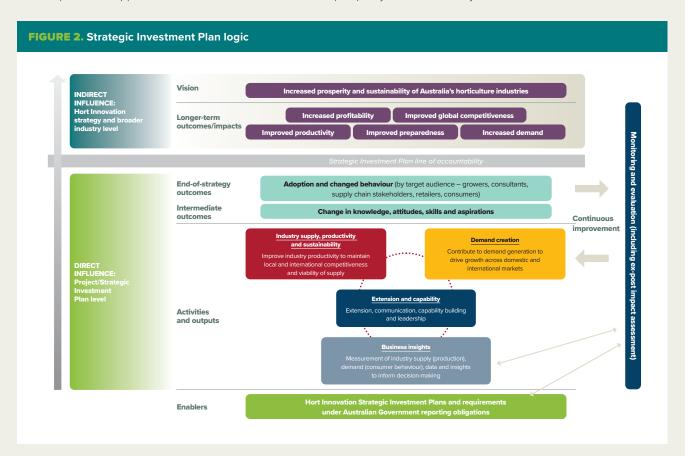


HORT INNOVATION



Strategic Investment Plan logic

The SIP logic (*Figure 2*) identifies how investment activities and outputs (delivered through each SIP outcome area) will support changes in industry KASA, which drive adoption and behaviour change. Beyond the SIP, investment will contribute to driving longer-term impacts for the sector like increased preparedness, demand, productivity, global competitiveness and profitability. Realising these impacts will support Hort Innovation's vision of increased prosperity and sustainability of Australia's horticulture industries.



Aligning to Hort Innovation investment priorities

Hort Innovation is committed to sustainable growth in horticulture, with the overarching aim of increasing the sector's value to \$20 billion by 2030. We will do this through implementing the SIP and investments against the three core pillars, committed to:

- 1. Drive knowledge and innovation into horticulture industries
- 2. Deliver the highest value R&D, marketing and international trade investments across industries now and into the future
- 3. Enable activities that drive all strategic imperatives.

Hort Innovation is governed by a Deed of Agreement with the Australian Government, which allows for the transfer and investment of levies and Australian Government contributions. As an RDC, Hort Innovation is able to leverage industry levy investments in RD&E with Australian Government contributions up to a value of 0.5% of the industry's gross value of production. All investments made by Hort Innovation are thoroughly considered to ensure they contribute to the guiding performance principles:

- Productivity
- Profitability
- Preparedness for future opportunities and challenges
- Competitiveness
- Demand: demonstrates how productivity, preparedness and demand lead to profitability and competitiveness and sustainability.

APPENDICES

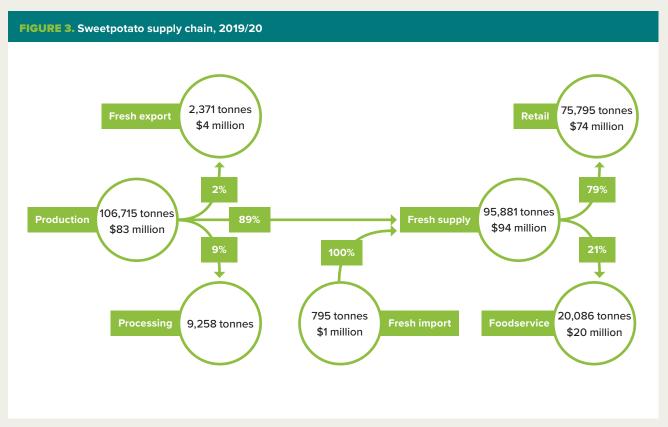


APPENDIX 1: Industry context

Industry supply chain

The Australian sweetpotato industry has experienced significant growth in recent years and is now treated as a specialist segment of the broader vegetable industry. There are approximately 85 commercial growers of sweetpotatoes across Australia, with the broader supply chain comprising of consolidators, distributors, wholesalers, retailers and freight providers. Most Australian sweetpotatoes are supplied for the fresh domestic market.

The majority of sweetpotatoes are marketed through retail channels (79%), with foodservice also an important channel taking the balance of the product (21%).



Source: Australian Horticulture Statistics Handbook (2019/20)

Sweetpotatoes are predominantly grown for the domestic retail market, with secondary markets in the form of foodservice and processing. Only a small amount is exported, with the opportunity to increase this amount to ensure the industry is less dependent on the domestic market. Foodservice is an important market, making up around 20% of total production, which is higher than the average for vegetables at 17% (*Figure 3*). It can be expected that this will increase when COVID-19 related disruptions to this market cease.

Domestic consumers and drivers of demand

The domestic fresh market is the most important channel for the Australian sweetpotato industry, which accounted for 89% of the total production volume in 2019/20. The domestic market has continued to grow in recent years underpinned by an increased availability of product, growing consumer awareness and improved product quality and consistency.

A large portion (64%) of the Australian population buy sweetpotatoes. Consumer research has identified key fundamentals to support further growth, including:

- Sweetpotato is a strong well-rounded product that is tasty, healthy, versatile, and easy to cook
- The opportunity to increase purchase among infrequent users, given existing positive association with product characteristics
- Specific health benefits (consumers were not clear on the reasons why sweetpotato was healthy), range of uses and cooking methods¹.

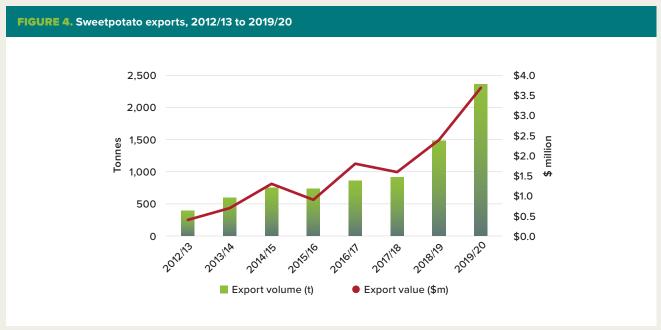
Homescan data for the 52 weeks to 4 October 2020 indicates that sweetpotato consumption increased by 5.2% compared to the previous 52 weeks in terms of volume, and 10.1% in terms of dollar sales. The percentage the average amount spent per household and the average weight purchased per household also increased². The cumulative impact of increasing domestic demand will support the unit value of sweetpotatoes at retail and farmgate, which ultimately underpins grower profitability.

Export markets

Sweetpotato exports have grown at an increasing rate over the last five years. 2,371 tonnes were exported in 2019/20, more than double the export volume in 2014/15. This had a corresponding value of \$3.7 million, an increase of 185% on 2014/15 values (*Figure 4*). While this shows a significant increase in exports in recent years, the share of total production sent to export is still comparatively small at just 2% of total production volume.

In the Asian region, Australia has open market access for fresh sweetpotatoes in Singapore, Indonesia, Malaysia and Hong Kong. Countries that accept Australian sweetpotatoes but have an import protocol in place include the United Arab Emirates, Thailand, Vietnam and Philippines. Major ASEAN markets where there is presently no market access for Australian sweetpotatoes include China, Japan, Taiwan and Korea. The United Arab Emirates continued to receive the majority of Australia's exported fresh sweetpotatoes in 2019/20, with 37% of product exports.

Only small volumes of fresh sweetpotatoes are imported, primarily from China, although this is not considered a threat to the domestic industry.



Source: Australian Horticulture Statistics Handbook (2019/20)

Export will become a larger focus area for the sweetpotato industry in this refreshed SIP, with the creation of a new export strategy informed by the recent Hort Innovation project *Sweetpotato market insights* (PW19000)².

¹ Horticulture Innovation Australia Limited and Nielsen, 2021, https://www.harvesttohome.net.au/vegetables/market-overview/sweetpotato

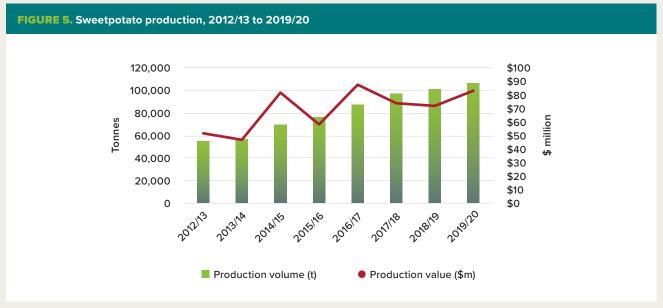
² Horticulture Innovation Australia Limited. 2021. Australian sweetpotato consumer insights research (PW19000). Final Report

Industry production

There are about 85 commercial sweetpotato producers across Australia who collectively produce around 100,000 tonnes of sweetpotatoes per year, with an estimated gross value of \$80 million³.

Australian sweetpotatoes are grown primarily around Bundaberg (QLD), which accounted for 88% of production in 2019/20. A further 11% is produced around Cudgen (northern NSW). Other growing areas include Mareeba, Atherton, Rockhampton (QLD), Murwillumbah (NSW), Perth, Carnarvon and Kununurra (WA).

The volume of sweetpotatoes produced has increased by 95% since 2012/13 to 2019/20 with production value also growing by 60% over this period reflecting the strong growth trajectory of the industry (*Figure 5*).



Source: Australian Horticulture Statistics Handbook (2019/20)

Sweetpotatoes are available year-round, with supply peaking February to April. Production is dominated by the gold variety, which has a rose/gold smooth skin and moderate deep-orange flesh. Gold sweetpotato accounts for 90% of production and is the most recognisable variety for Australian consumers. The red variety has a red/purple skin, with bright-white flesh and accounts for 7% of production. The purple variety, also known as Hawaiian sweetpotato, has white skin and white or purple flesh, and accounts for 3% of fresh production. While retail growth in the domestic Australian sweetpotato market is largely based on the popularity of the gold variety, niche markets are developing for the red and purple varieties.

The domestic industry is unable to supply the quantity of product required to satisfy demand for items such as frozen sweetpotato chips and fries for the foodservice industry. These commercial sweetpotato products are usually grown and packaged in countries such as Canada, the USA and South Africa. Australian sweetpotatoes often cannot be supplied at competitive prices to produce these processed products.

The industry has invested in areas such as virus diagnostics to improve industry yields. Another area of investment which will be continued in this SIP is the management of skin damage, which will result in higher quality produce to market and the avoidance of postharvest losses.

³ Australian Sweet Potato Growers Inc, 2012, Situation Review and Strategic Marketing Plan for Australian Fresh Sweet Potatoes 2013-2016

APPENDIX 2: Sweetpotato industry situation analysis

At the time of refreshing the SIP in 2021, the global coronavirus (COVID-19) pandemic continues to affect horticulture industries to varying degrees. Although the outcome and ultimate impact of the pandemic are unknown, areas of investment across horticulture that may be influenced over the period of this SIP include export and trade relationships, domestic and international demand, logistics and supply chain, labour supply – all having potential impacts on grower profitability.

Environmental, economic and social sustainability are vitally important to Australian horticultural growers and industries. Customers, consumers, and investors also seek information about the sustainability and ethics of how their food is produced. Sustainability is particularly crucial as topics such as climate variability, health and ethics continue to shape the social, environmental, and political landscape for agricultural industries. The impact of these issues may have influence on a whole range of investment areas for horticulture from production practices and land management, demand and reputation of products, quality expectations and cultural/community engagement.

Strengths, weaknesses, opportunities and threats

Table 4 has been used to analyse the sweetpotato industry's strengths, weaknesses, opportunities, and threats (SWOT). The SWOT tool assists the industry to build on what works, observe what is lacking, minimise risks, and take the greatest possible advantage of chances for success.

TABLE 4. Sweetpotato SWOT analysis

The sweetpotato industry

Strengths

- The Australian sweetpotato industry is achieving sustained growth in response to market demand
- Industry awareness and interest in developing exports
- Suitable land is available for production expansion
- Diversity of production regions enable reliable supply year-round
- A cohesive industry with most grower businesses and most of the production involved in the industry body
- Increasing production standards across value chains are delivering higher volumes of sweetpotatoes
- Product has positive nutritional attributes
- R&D levy funds are available for production and consumer research
- Productive relationship with breeders of cultivars provides access to cultivars that meet production challenges and market needs
- Strategic investments made in developing lesser-known varieties to make the industry less vulnerable to changes in the production environment

85

commercial growers of sweetpotato across Australia, with the broader supply chain comprising of consolidators, distributors, wholesalers, retailers and freight providers.

The sweetpotato industry

Weaknesses

- Limited or no technical access to high value export markets
- Domestic-focused industry with limited export experience
- Limited awareness about Australian sweetpotatoes in overseas markets
- Lack of market knowledge and differentiation of cultivars
- Production vulnerability to seasonal variation, with peaks and troughs in production and supply with flow-on inconsistencies in price
- · Limited supply and inconsistent yields and quality of different cultivars such as red and purple varieties
- High costs of production relative to overseas industries
- Variable quality of communications and sharing of information with growers from customers purchasing product through wholesale markets
- Variable or low consumer awareness of how to cook sweetpotatoes
- Past R&D initiatives and information were based on the broader vegetable industry, rather than being specific to sweetpotatoes
- High reliance on the gold sweetpotato variety with little depth in the category
- Negligible share of the growing frozen fries' market in retail and food service sectors
- Inconsistent retail sweetpotato quality
- High reliance on continued access to new cultivars from the USA

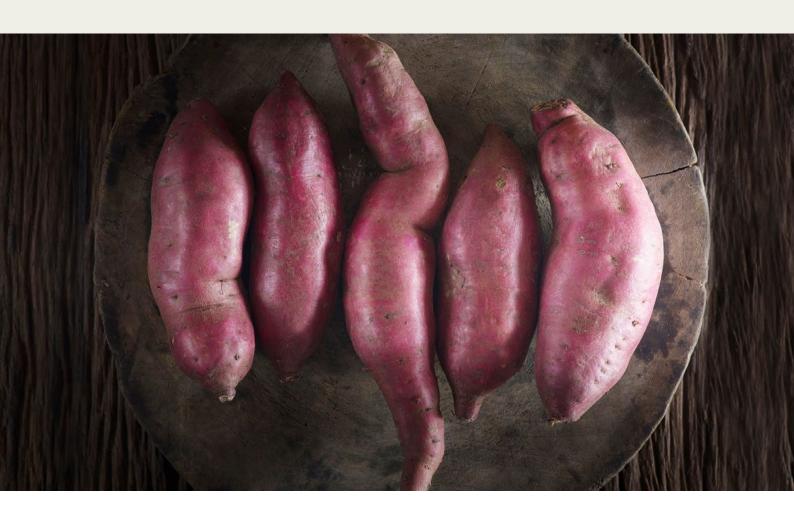
Opportunities

- There are high value export markets for sweetpotatoes
- One third of Australian shoppers are unaware of sweetpotato health benefits
- · Government is supportive to improve technical access for existing and new export markets
- Consumers connecting with food products and businesses online and in social media
- Sweetpotatoes have nutritious qualities valued by consumers
- Increasing consumer demand for safe food
- Increase in community association of natural foods with good health
- Consumer awareness/expectation of environmentally sustainable production
- Supermarkets seeking security of supply
- Value chain desire for strategic industry engagement to develop markets
- Wider trend towards branding of agriculture products to target specific market segments
- Application of R&D and modern crop management practices that reduce the need for chemical use in production
- Availability of technology to improve productivity at all stages of value chain.
- The world trade in sweetpotatoes is increasing year on year
- Consumer preference for sweetpotato over potato
- Develop new collaborative opportunities between industry and broader researchers

The sweetpotato industry

Threats

- Increasing production from existing and new growers could oversupply the domestic market, with adverse impacts on prices
- Australia is potentially an attractive market for large overseas competitors that can compete based on lower prices
- Competition from other vegetables and food products
- Unclear and inconsistent specifications for product quality and grade
- Supermarkets eroding supplier brands
- Maintenance of premium retailer pricing
- Consumer demand for assurance on product integrity and sustainability
- Reputational damage if media or online activism highlights incidences of poor production and workplace practices, environmental or product quality performance
- Climate change and variability in growing conditions create instability in supply and price volatility
- Declining and/or uncertain access to crop protectants needed for optimal production and biosecurity management
- Packaging problems (e.g., handling, breakdown in transit)
- Growing competition from other suppliers (e.g., the USA, Japan, Indonesia, Malaysia, China, Vietnam and South Africa to meet demand in high value overseas markets)
- Reduced plant health status and performance caused by root-knot nematodes



APPENDIX 3: People consulted

The following people are acknowledged for their contribution to the sweetpotato SIP development process.

| NAME | INDUSTRY ROLE | REGION |
|-----------------------|--|-----------------|
| Rodney Wolfenden | Grower; Sweetpotato SIAP; President, ASPG | Queensland |
| Eric Coleman | Seed producer; Sweetpotato SIAP; Treasurer, ASPG | Queensland |
| Matthew Prichard | Grower; Sweetpotato SIAP; Vice President, ASPG | New South Wales |
| Damien Botha | Grower; Sweetpotato SIAP; Management Committee, ASPG | Queensland |
| Steve Paddon | Grower; Management Committee, ASPG | New South Wales |
| Russell Mortimer | Grower; Management Committee, ASPG | Queensland |
| Darren & Linda Zunker | Grower; Sweetpotato SIAP; Management Committee, ASPG | Queensland |
| Michael Jess | Grower; Sweetpotato SIAP; Management Committee, ASPG | Queensland |
| Russell McCrystal | Grower; Sweetpotato SIAP | Queensland |
| John Akers | Grower; Management Committee, ASPG | Queensland |
| Sam Tully | Grower | New South Wales |
| Troy Prichard | Grower; Sweetpotato SIAP; Management Committee, ASPG | Queensland |
| John Maltby | Secretary, ASPG | Queensland |
| Craig Henderson | Consultant (previously DAFQ) | Queensland |
| Sandra Dennien | NHRN representative, DAFQ | Queensland |

APPENDIX 4: Reference material

Footnotes

- 1. Horticulture Innovation Australia Limited and Nielsen, 2021, https://www.harvesttohome.net.au/vegetables/market-overview/sweetpotato
- 2. Horticulture Innovation Australia Limited. 2021. Australian sweetpotato consumer insights research (PW19000). Final Report
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Horticulture Innovation Australia Limited, 2020, Australian Horticulture Statistics Handbook 2020/21

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APPENDIX 5: List of acronyms

AIP Annual Investment Plan

APVMA Australian Pesticides and Veterinary Medicines Authority

ASEAN Association of Southeast Asian Nations
ASPG Australian Sweetpotato Growers Inc

BMP best management practice

CSIRO Commonwealth Scientific and Industrial Research Organisation

DAFQ Department of Agriculture and Fisheries, Queensland

FY financial year

IRB Industry Representative Body

KASA knowledge, attitudes, skills and aspirations

KPI key performance indicatorM&E monitoring and evaluationMRL Maximum Residue Limit

NHRN National Horticulture Research Network

PHA Plant Health Australia

R&D research and development

RDC Research and Development Corporation
RD&E research, development and extension
SARP Strategic Agrichemical Review Process
SIAP Strategic Investment Advisory Panel

SIP Strategic Investment Plan

SWOT strengths, weaknesses, opportunities, and threats



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