

Final Report

People development strategy for the Australian mushroom industry

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RMCG

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People development strategy for the Australian mushroom industry (MU23005)

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People Development Strategy for the Australian Mushroom Industry

Final Report

Hort Innovation

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ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the Traditional Owners of the Country that we work on throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present, and we acknowledge emerging leaders. Moreover, we express gratitude for the knowledge and insight that Traditional Owners and other Aboriginal and Torres Strait Islander people contribute to our shared work in Australia.

We pay respects to all Aboriginal and Torres Strait Islander communities. We recognise that Australia was founded on the genocide and dispossession of First Nations people and acknowledge that sovereignty was not ceded in this country. We embrace the spirit of reconciliation, working towards self-determination, equity of outcomes, and an equal voice for Australia's First People.

1 Introduction

1.1 BACKGROUND

The Federal Government held a Jobs and Skills summit in 2022 which highlighted critical challenges that most industry sectors in Australia face with attracting, developing and retaining skilled workers as well as addressing significant labour shortages. For agriculture these challenges were previously captured in the National Agricultural Workforce Strategy: Learning to excel¹.

The horticulture sector, including the mushroom industry, has been tackling these issues for some time and has invested levy funds via a range of Hort Innovation based programs targeting skill development, career pathways, attracting new entrants, leadership (including women in horticulture) and innovation. While these activities have addressed specific industry needs, they have been delivered in the absence of an overarching People Development Strategy and therefore have often been reactive to a particular issue or problem.

To remain competitive for ‘talent’ the mushroom industry has recognised the need to take a strategic approach to people development. Other agricultural industries have leadership and/or people strategies (such as the Dairy Industry Leadership Strategy, People in Dairy, Wine Australia, FRDC - Capability and Capacity Plan) to guide future activity to attract people and build the capability of their sectors. Having a future-focused People Development Strategy will be critical given the current and future changes expected to impact workplaces and the type of skills required.

The McKinsey Global Institute researched the future world of work, which has shown that demand for manual skills will decline, while demand for technological, social and higher cognitive skills will increase². Their research has identified 56 ‘foundational skills’ that will be needed for people to thrive in future workplaces. These skills cover 13 skill groups and four main categories of Cognitive, Inter-personal, Self-Leadership and Digital.

Skills Impact also notes “we are amidst the ‘fourth industrial revolution’, with the rise of digitisation, automation, biotechnology and robotics changing the way work is done. The industries we support are familiar with change and the need to adapt. Many of them work in unpredictable and changing industries, affected by changes in the environment, legislation, technology, products and consumer demands.”³ This is particularly true for the mushroom industry, with the COVID-19 pandemic further accelerating transformation in certain areas.

1.2 THIS PROJECT

Like many industries across Australia the mushroom industry is facing challenges in attracting, developing and retaining labour, skilled and specialist workers. While there has been investment into training and leadership initiatives, this has often been opportunistic and reactive. A coordinated, clear and well-thought-through People Development Strategy (Strategy) will focus both efforts and funds and ensure industries are able to respond to present challenges and establish future skills for a high-functioning and innovative horticulture industry.

The development of a Strategy to guide investment in people aligns with the Strategic Investment Plan for the mushroom industry. Hort Innovation’s Mushroom Strategic Investment Plan (SIP) 2022–2026 identified extension and capability as the third key outcome to support the growth of the industry⁴. The strategic intent

¹ Azarias, J, Nettle, R & Williams, J 2020, *National Agricultural Workforce Strategy: Learning to excel*, National Agricultural Labour Advisory Committee, Canberra, December. CC BY 4.0.

² Dondi, M, Klier, J, Panier, F and Schubert, J (2021). Defining the skills citizens will need in the future world of work. McKinsey Global Institute. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/defining-the-skills-citizens-will-need-in-the-future-world-of-work>.

³ <https://www.skillsimpact.com.au/about/>

⁴ Hort Innovation 2021, *Mushroom Strategic Investment Plan 2022-2026*.

of this outcome is to support the improvement of knowledge, relationships, systems and processes in the industry, and encourage an innovative culture that will benefit grower and industry profitability and sustainability. Approximately 6% of Mushroom SIP investments are committed toward this outcome for the 2022-2023 financial year, compared to 69% for marketing, 19% for industry supply, productivity and sustainability and 3% for research and development into demand creation⁵. The SIP describes two strategies to guide investment in extension and capability between 2022–2026⁴:

- To deliver communication and extension capability focussed on the areas of pest and disease management, biosecurity, food safety, supply chain practices and production and sustainability enhancements.
- To strengthen industry leadership through initiatives and training.

1.3 PURPOSE

The objective of this project was to develop a contemporary and fit-for-purpose People Development Strategy and Implementation Plan for the mushroom industry building on previous research and projects and incorporating best practice from other industries.

1.4 PROJECT APPROACH

The approach for developing the Strategy is outlined in Figure 1-1. A comprehensive desktop review and interviews with representatives from the mushroom industry informed the development of the Strategy. See Appendix 1 for the consultation interview guide.

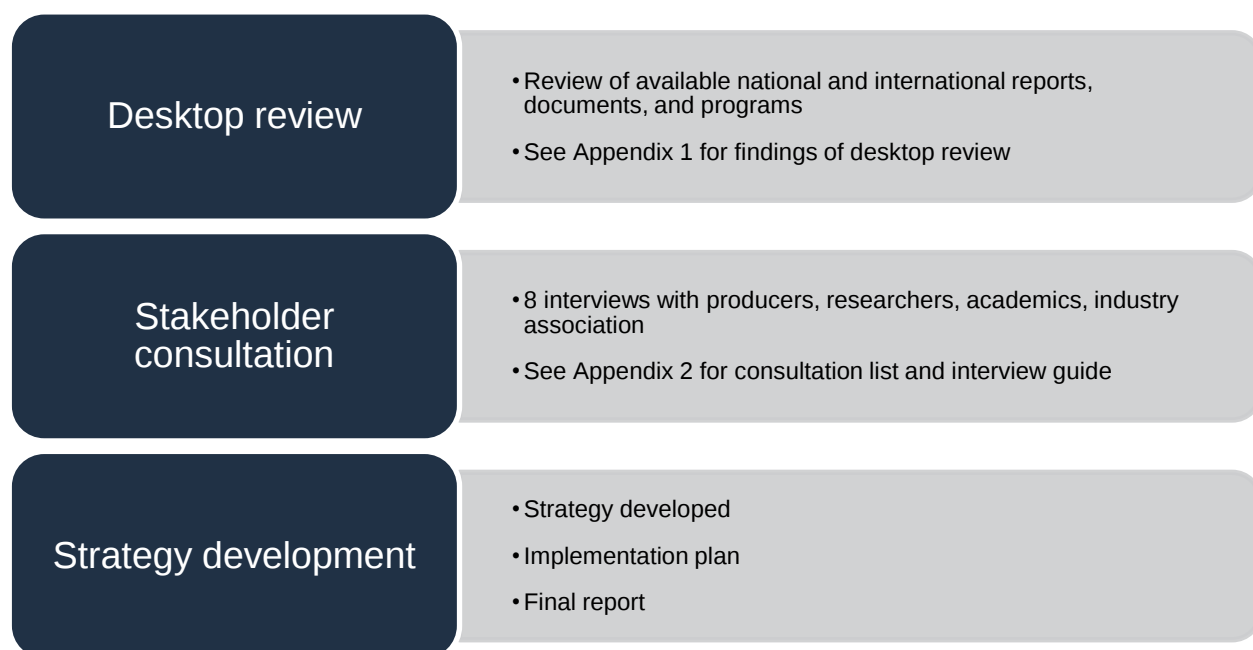


Figure 1-1: Approach for Strategy development

The framework used to guide the development of the Strategy and associated implementation plan is outlined in Figure 1-2. Noting that the inner circle with the four quadrants outlines the strategic process and the outer circles provide the context for the Strategy, with the enabling factors being critical for the Strategy's success.

⁵ Hort Innovation 2022, *Mushroom Annual Investment Plan 2022-23*.

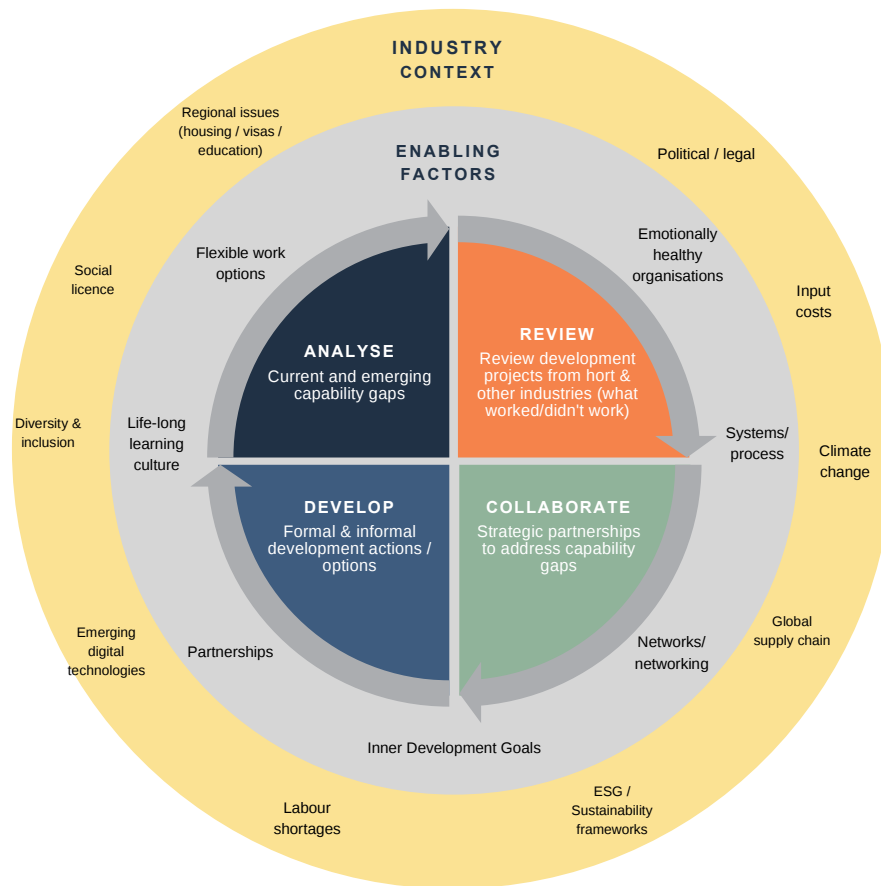


Figure 1-2: Framework for Strategy development

1.5 OUTLINE OF REPORT

This report provides the process of the Strategy development and is structured as follows:

- Introduction (this section)
- Industry context
- Strategy Development
- Conclusion.

Appended to the report are the:

- Findings of the desktop review (Appendix 1)
- Consultation interview guide (Appendix 2)
- Mushroom People Development Strategy – Action map (Appendix 3).

2 Industry Context

2.1 BACKGROUND

Australia's 9,763 horticultural production businesses provide the Australian population with fresh fruit and vegetables, contribute \$15 billion/annum to the economy⁶, and employ approximately 112,000 people⁷. Horticulture is the third largest agriculture sector in Australia behind livestock and grains, and significant business acumen including supply chain management, technology, product innovation and export competitiveness is required to participate in the sector. Horticultural operations of today operate at levels of complexity that did not exist 30 years ago.

Horticultural businesses are faced with a range of compliance responsibilities in the areas of biosecurity, workplace health and safety, ethical employment, pesticide management, food safety, customer relationships (including ACCC Horticulture Code of Conduct) and environmental sustainability. Managing carbon emissions due to increasing concern over climate change is a further responsibility that may become compulsory.

In addition, marketing of products and processes is increasingly a core function of horticultural businesses that covers quality assurance, accreditation, logistics and supply chain relationships. To remain viable, horticulture businesses must be technologically adept and remain 'cutting edge', that may include adoption of automated processes across the production system, a range of precision agriculture applications as well as data monitoring and management systems.

Small to medium enterprises cannot afford to employ several specialists; requiring multi-skilled staff in management positions. There is broad recognition that to remain internationally competitive and equipped to capitalise on opportunities, the horticulture industry needs to attract the best educated people. There is also a need to secure a constant pipeline of well-trained experts to support the capacity of the industry into the future. Presently, horticultural businesses are struggling to attract and retain the necessary skilled workforce with significant consequences and loss in profits.

2.2 NATIONAL WORKFORCE TRENDS

For the first time in history there will soon be five different generations working together in the workplace. These generations will think differently, have different needs and expectations and varying contributions to make⁸. At present many of these generations, and the demographics within them, are underutilised. A snapshot of a few of these demographics include:

- Young Australians (noting that one in three are underemployed or unemployed at the cost of \$4.5 billion to the nation's economy⁹)
- Mature age workers
- People from culturally and linguistically diverse (CaLD) backgrounds
- People with disabilities
- Indigenous people.

⁶ [https://www.horticulture.com.au/hort-innovation/news-events/Australian-horticulture-grows-by-\\$6.15B-within-a-decade/#msdyntrid=wfKedA7AgS5BTSMrSKRwOSwA1NjYzEwgbyWKn4Uks0](https://www.horticulture.com.au/hort-innovation/news-events/Australian-horticulture-grows-by-$6.15B-within-a-decade/#msdyntrid=wfKedA7AgS5BTSMrSKRwOSwA1NjYzEwgbyWKn4Uks0)

⁷ <https://www.agriculture.gov.au/abares/research-topics/labour>

⁸ Hope is not a Strategy – Our shared responsibility for the future of work and workers, Senate Select committee on the Future of Work and Workers, Commonwealth of Australia, 2018.

⁹ Foundation for Young Australians Framework 2030.

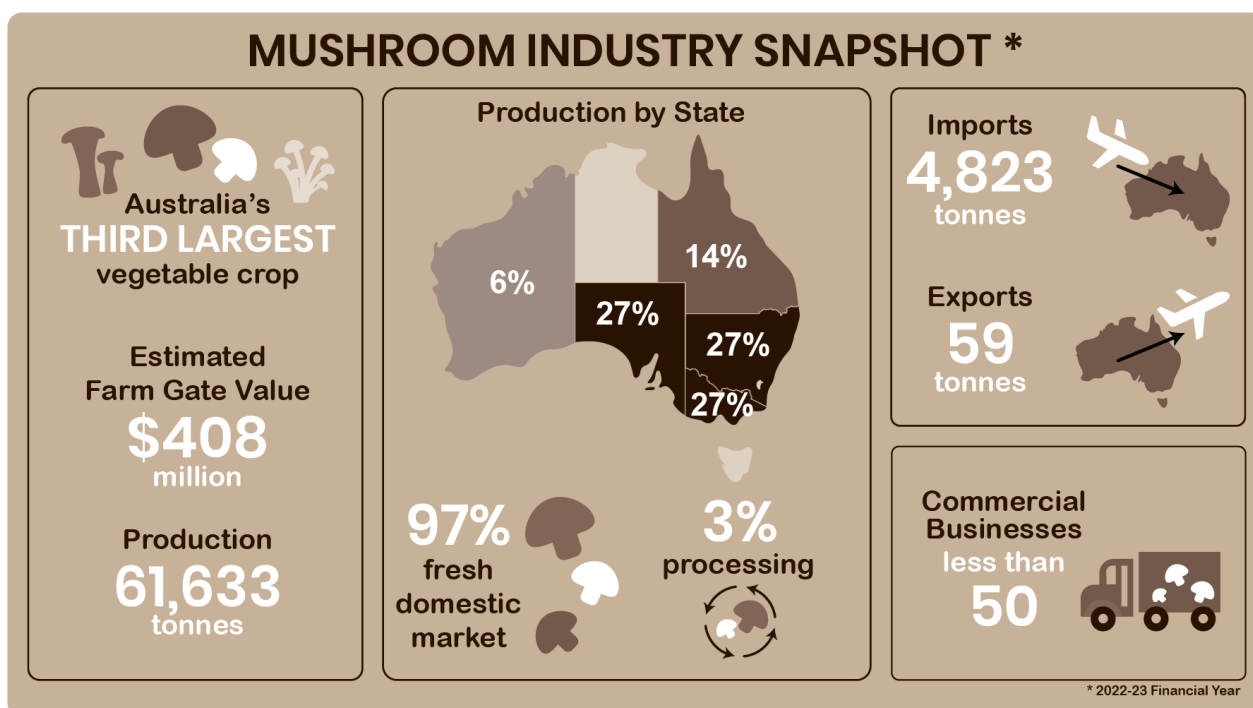
Other trends exacerbating these issues include a decline in the number of apprenticeships and traineeships in Australia and a need for greater choice for those who would like to go straight to work after high school instead of undertaking further study.

Notably is the fact that there are skills and capability gaps across many industries, not just in the agriculture and horticulture sector, in regional Australia. Rural Australia Institute research on *The Future Regional Jobs*¹⁰ identifies that “local and regional scale interventions are critical” and that “aligning skill supply with skill demand requires proactive and innovative education and training practices that involve a wide range of participants such as employers, young people, educators, trainers, older job seekers and even families and communities more broadly.”

2.3 INDUSTRY PROFILE

The value of Australia’s mushroom crop peaked in 2018-2019 at \$438 million and then dropped to \$368 million in 2019-2020, likely as a result of COVID-19 disruptions. The value has been steadily recovering since this time. The mushroom industry has experienced a period of consolidation in recent years which has reduced the number of businesses to less than 50 commercial mushroom businesses nationwide. The mushroom industry comprises businesses of a range of sizes which can be either family-owned enterprises or corporate entities. Businesses may be further integrated and include composting production facilities to develop the substrate mushrooms are grown in (Figure 2-1).

Figure 2-1: Mushroom industry profile tonnes¹⁰¹¹¹²



¹⁰ The Future of Regional Jobs, Regional Australia Institute, April 2019.

¹¹ ABS 2021, *Value of Agricultural Commodities Produced, Australia*

¹² Hort Innovation 2023, *Australian Horticulture Statistics Handbook 2022/2023*

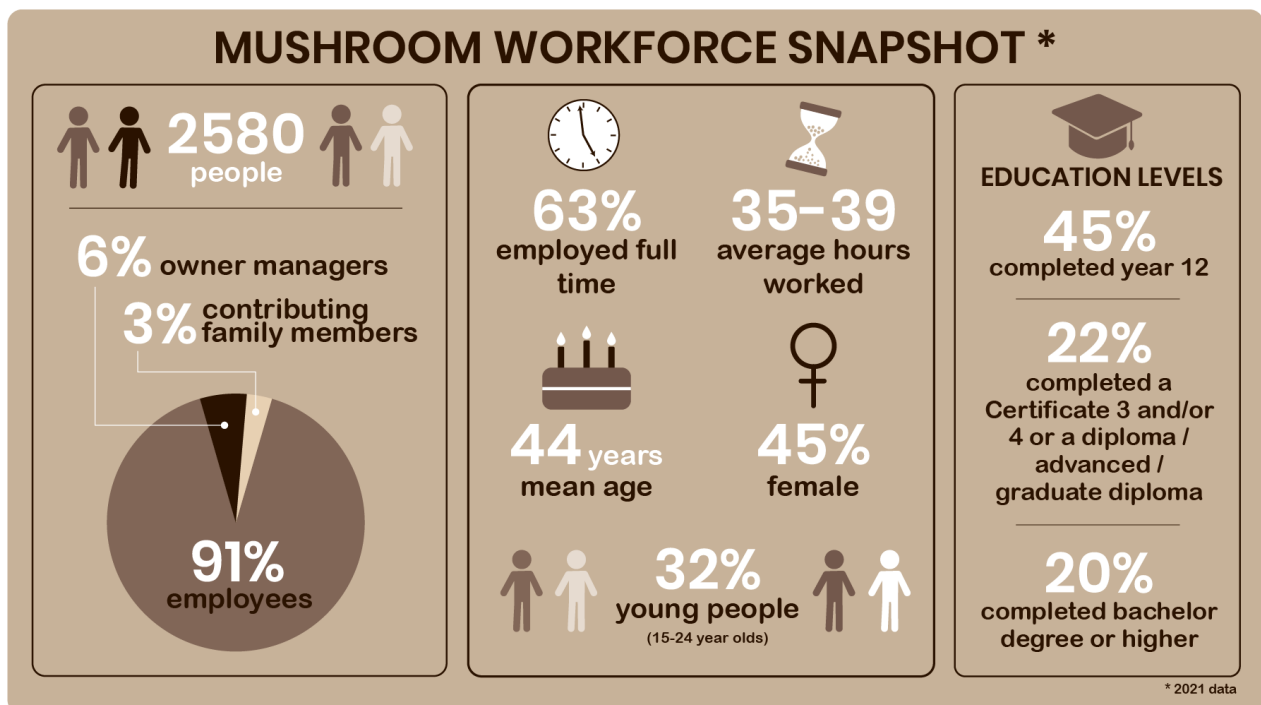
2.4 MUSHROOM WORKFORCE

The workforce includes a combination of skilled and low skilled (or inexperienced) workers. Mushroom picking is often undertaken by overseas workers engaged through the Pacific Australia Labour Mobility (PALM) scheme who are generally female. Owner operators and managers are generally older Australian-born males. The pathway for entry, skill requirements and needs for general staff and management are quite distinct. Occupations within mushroom businesses will typically include:

- Owner/operators – responsible for leading and oversight of the business
- Middle management / team leaders – leading picking teams and compost production
- General staff – picking teams, machinery operators, compost production
- Specialist / advisors – consultants, researchers, agronomists, pest and disease specialists, trades (such as electricians).

The profile of the mushroom workforce is outline in Figure 2-2.

Figure 2-2: Mushroom workforce profile¹³



¹³ ABS census data 2021

2.5 INDUSTRY OPPORTUNITIES AND CHALLENGES

The COVID-19 pandemic presented a range of challenges for the Australian horticultural sector, many of which are now diminishing. The value of the Australian mushroom crop declined during the early years of the pandemic, partly due to shutdowns across the food service sector, but has been recovering steadily since 2020.

The Mushroom SIP 2022–2026 outlines a range of opportunities and challenges currently facing the Australian mushroom industry. Some of these are common across other horticultural industries and some are more specific to the mushroom industry and its unique features. Challenges identified in the SIP that are relevant to workforce development include:

- Australia has a high cost of production for mushroom production (exposure to high labour costs, inability to improve farmgate prices relative to consumer price index and small domestic market)
- Poor impression of the horticultural industry as not paying well making it difficult to attract and retain skilled and competent staff resulting in loss of industry knowledge
- Ageing industry (farms, growers, researchers, consultants, auditors, accreditation) and lack of succession.

These and other challenges raised during interviews, which are pertinent to the mushroom and broader horticulture industry, are further outlined below.

YEAR-ROUND OPERATIONS

Unlike a number of other horticulture crops, mushroom production is constant (not seasonal) and production occurs indoors. This provides an opportunity for the industry to attract workers based on the ability to offer constant employment and protection from climate extremes. The ability to retain employees throughout the year also provides a greater opportunity to develop long-term skills and capabilities (in comparison to seasonal employment).

RISING INPUT COSTS

The combined effects of ongoing global conflicts, international COVID-19 impacts, and the possibility of a global recession have put upward pressure on fuel, energy and fertiliser prices. Some growers with lock-in contracts are currently absorbing increased costs of production. The highly technological and automated systems used by mushroom growers rely heavily on electricity, making mushroom growers especially vulnerable to changes in energy prices. A number of the producers we interviewed spoke to the challenge of staying financially viable in the current operating environment. The consolidation of mushroom businesses in recent years is evidence of this challenge.

LABOUR SHORTAGES

Agriculture and horticulture businesses struggle to attract and retain employees due to a range of factors. Australia's continuing low unemployment rate, aging population (particularly aging farm workforce), and demographic shifts which mean most Australians now live in coastal cities, all contribute to this challenge. Farm work may also be viewed as unattractive (unskilled and poorly paid (i.e. the National Minimum Wage in Australia is now higher than the Horticulture Award¹⁴) and physically challenging by potential workers with a range of employment options.

¹⁴ Navigating the New Workplace Panel – Steve Ronson – Executive Director Enforcement, Fair Work Ombudsman, presentation at Hort Connections 2023

EMERGING DIGITAL TECHNOLOGIES

In 2022 the Commonwealth Government highlighted that “digital technologies are the foundation to the next wave of agricultural productivity” in their *Digital Foundations for Agriculture Strategy*. Some examples of digital technologies and trends include the use of remote sensing, harvesting and environmental management, traceability technologies and digital logistics for product tracking and provenance (paddock to plate)¹⁵. The digital landscape requires employees who can work with digital equipment, and decision-makers familiar with data-driven models for real-time farm management¹⁶. The mushroom industry is already an intensive, technology-focused industry, but this focus and skill need will increase in the future as further automation is introduced. This provides an opportunity to attract younger employees who have an interest in the applied use of technology.

LEGAL AND REGULATORY REQUIREMENTS

Mushroom producers who supply major retailers must comply with food certification programs such as Freshcare and HARPS. Third-party audited food safety and quality programs can be expensive to implement and audit, and require time to maintain necessary records. An increasing focus on legal and regulatory requirements:

- Places increasing compliance pressures on producers
- Requires education and training to understand and satisfy these requirements to maintain and improve competitiveness as clean, green and safe
- Opens up an opportunity to share compliance employees or contractors with similar industries.

SOCIAL LICENCE

Social licence is the acceptance granted to a business or industry by the community based on its social relationships and responsibility¹⁷. Social licence to operate is becoming increasingly important in agriculture, and while it can seem a very nebulous concept for farmers to tackle, the impact of an industry losing its social licence is immediate and potentially terminal for the farm businesses involved. Social licence credentials, such as Fair Farms and Sedex, can improve the reputation of mushroom businesses and the industry. Industries with a strong social licence to operate can be attractive to employees who seek social purpose and fair conditions in their employment. The mushroom industry, as a critical food producer, has an opportunity to attract younger workers and enter new markets if it can understand and meet community values.

¹⁵ <https://www.agriculture.gov.au/sites/default/files/documents/digital-foundations-agriculture-strategy.pdf>

¹⁶ <https://www.mckinsey.com/industries/agriculture/our-insights/how-advanced-analytics-can-address-agricultural-supply-chain-shocks>

¹⁷ The Ethics Centre, 23 Jan 2018, Ethics Explainer: Social license to operate, <https://ethics.org.au/ethics-explainer-social-license-to-operate/>

3 Strategy development

This People Development Strategy has been developed with input from:

- Small, medium and large horticulture businesses
- Researchers and academics
- Business owners new to the mushroom industry.

The Strategy also includes information from the desktop review of examples of people's development and experiences from horticulture and other sectors presented as case studies.

This is the first people development strategy for the mushroom industry, although previous work has been undertaken and is referred to in this version. The expectation for this Strategy, is for it to be a live document that can be reviewed frequently in line with changing industry needs. This will require:

- Regular reviews of the industry context to update the most relevant issues that may impact the implementation of the Strategy
- Updating key skills and capability gaps as the industry needs change
- Evaluations of the actions in the implementation plan against the desired outcomes.

4 Conclusion and recommendations

The People Development Strategy provides a guide for the investment in people in the mushroom industry. The Strategy aligns with the Strategic Investment Plans (SIPs) for the mushroom industry, with the desired outcome being: *Improvement of knowledge, relationships, systems and processes in the industry, encouraging an innovative culture that will benefit grower and industry profitability and sustainability.*

The aspirational outcome of this Strategy is that a diverse and capable Australian mushroom workforce:

- Is attracted to careers and employment in the mushroom industry.
- Has access to flexible pathways to pursue rewarding careers and employment opportunities.
- Is appropriately skilled and supported by flexible training and education pathways that are industry-led and responsive to industry trends.
- Are leaders in adopting contemporary technologies, management practices and innovations.

For these outcomes to be fully realised, investment by individual businesses, industry organisations and Hort Innovation in programs and activities aligned to the Strategy will be needed. Each entity has a key role to play both individually and in partnership across the industry to ensure people development is recognised as core to ensuring resilient industries.

Given the complex and evolving context of horticultural businesses, workforce trends, economic uncertainty and climate change, it's important that the Strategy and implementation plan are not considered fixed and are reviewed regularly.

Appendix 1: Desktop Review Findings

A desktop review of a range of workforce development programs and related initiatives relevant to the mushroom industry was undertaken to inform the creation of the Strategy. Key skills and aptitudes needed for the future, including technical aspects, were considered. Programs and reports highlighting leadership, career pathways and increasing participation of Cultural and Linguistic Diverse (CaLD) people and other demographics often underrepresented in the horticulture workforce, were also reviewed. The following section presents an analysis of the information gathered through the desktop review that has been used to inform the development of the Strategy.

4.1 CAPABILITY NEEDS ACROSS HORTICULTURE

As horticulture in Australia constantly evolves, there are four specific domains of skill and capability development required. These include:

- **Core technical** – which underpins the capacity of the workforce to execute current day-to-day responsibilities with appropriate skills, capabilities and knowledge;
- **Digital** – for the routine use of digital technologies and also the uptake of new digital technologies that Australian horticulture needs to improve productivity and remain globally competitive;
- **Leadership and interpersonal** – for workers to become their most successful selves, and also contribute or lead within highly effective teams; and
- **Business strategy and risk** – enabling those people managing horticulture businesses to adapt and thrive within an increasingly unpredictable business context.

Importantly, these skill domains, other than the core technical skills, align with McKinsey's 56 foundational skills (i.e. 'Distinct Elements of Talent') that they consider essential for employees to 'thrive' in the future of work¹⁸. McKinsey states that these foundational skill sets will help employees fulfil the following three criteria regardless of the industry sector in which they work or their occupation:

- Add value beyond what can be done by automated systems and intelligent machines
- Operate in a digital environment
- Continually adapt to new ways of working and new occupations.

4.1.1 CORE SKILLS AND CAPABILITIES

The mushroom industry requires workers who can efficiently and effectively undertake day-to-day activities on-farm. There are specific areas that underpin that capacity, and represent current priorities for Australian horticulture which include the following:

Working on farm

The COVID-19 pandemic brought a new focus on labour shortages on farms, particularly for the large number of unskilled or semi-skilled workers that service the mushroom industry. The entry-level skills required for this work are generally limited to farm induction and on-the-job training in picking mushrooms. Beyond harvesting, there is a need for workforce upskilling in: hazard identification and duty of care, safe manual handling, working at heights, working around machinery, ChemCert, record keeping and documentation, and labour rights and grievance procedures^{19, 20, 21}.

¹⁸ <https://www.mckinsey.com/industries/public-sector/our-insights/defining-the-skills-citizens-will-need-in-the-future-world-of-work>

¹⁹ <https://www.uq.edu.au/news/article/2003/08/farm-skills-training-program-shows-promise-industry-model>

²⁰ <https://agriculture.vic.gov.au/crops-and-horticulture/Workforce-and-Harvest/harvest-work-training>

²¹ <https://www.accr.org.au/news/modern-slavery-and-horticulture-supply-chains/>

Safe use of machinery

Work Safe Australia states that agriculture is one of the most dangerous industries to work in because of its combination of hazards (e.g. chemicals, vehicles, remote or solo work, outdoors, manual handling)²². These risks can be exacerbated with a transient workforce (e.g. large numbers of workers, high turnover, unskilled, semi-skilled) which places a greater onus on team leaders and farm managers to establish safe practices. Farm practices associated with WHS can be highly variable between enterprises, and a culture of on-the-job learning in the use of farm equipment contributes to variable (and sometimes hazardous) practices in the horticulture sector. Vehicles (including tractors, aircraft, quad bikes) are associated with 75% of deaths on farms so skills in the safe use of vehicles and equipment are a priority for horticulture²³. As is upskilling team leaders and farm managers to entrench the safe use of machinery as a routine part of farm operation and culture.

Mechanical skills

There are many mechanically skilled jobs on farm – vehicle/equipment maintenance, fitters and turners, electricians together with forklift, and tractor drivers. Competition with other industries such as trades and mining makes it difficult to attract people with these skills. Many are attracted to other sectors that may be closer to main towns or include higher wages.

Pest, disease and biosecurity management

Beyond the capacity to grow and pick mushrooms, the mushroom workforce requires expertise in observing crops for signs of pest and disease, and greater capacity to follow structured processes to minimise on-farm biosecurity risks. Beyond identifying disease, a valued skill is recognising disease lifecycles, cultural control methods and thresholds that indicate the need for intervention during a disease outbreak²⁴.

Documenting procedures

In 2022, the Fair Work Commission made changes to the Horticulture Award to include a minimum hourly wage guarantee and a requirement to record hours worked by pieceworkers (e.g. pickers and packers). These changes meant horticulture supervisors needed additional skills to manage employee performance and meet reporting requirements related to work health and safety, and compliance with industry quality assurance standards. For example, employees need to know how to fill in, store and compile information on the Fair Work Ombudsman's 'piecework record template'. Reporting workplace WHS incidents and near misses, completing emergency planning, recognising and responding to labour rights/modern slavery issues on-farm and developing and using standard operating procedures for farm activities (e.g. equipment, chemicals) are also priority skills for day-to-day farm operation.

Agronomy Skills

Agronomists are part of an aging cohort that will require strong succession planning in many areas. The skills and capabilities involved (nutrition, irrigation, pest and disease management, interpersonal and communication skills, and application of knowledge for decision-making) could be sourced from qualifications other than horticulture. Succession planning and mentoring of new/young people will also be critical to pass on knowledge, skills and capabilities.

Research and plant science skills

²² <https://www.safeworkaustralia.gov.au/safety-topic/industry-and-business/agriculture>

²³ <https://www.safeworkaustralia.gov.au/safety-topic/industry-and-business/agriculture/managing-risks>

²⁴ Ibid

Similar to agronomy skills, research skills are critical to ensure that the industries remain relevant and can overcome challenges with the latest science and information. Complex challenges require researchers and agronomists to work with business owners to solve them within the context of different farms, climates and micro-climates. Some larger businesses will need to resource and support researchers in-house, while others will need to partner with universities or research bodies to implement trials and encourage and support pathways into industry either individually or together.

Working with diverse cultures and employees with English as an alternative language (EAL)

Australia is becoming more and more culturally and linguistically diverse (CaLD) as immigration increases and horticulture businesses employ large numbers of CaLD employees who are temporary residents, Pacific Australia Labour Mobility (PALM) scheme or working holiday makers. Many temporary residents from CaLD communities who came from farming backgrounds in their home country are interested in and have skills in horticulture²⁵. To reap the benefits of this diversity and inclusion, businesses need to upskill their staff in cultural awareness and need to work with CaLD support organisations to create opportunities for learning workplace English (EAL) in work time.

Support and facilitation for CaLD employees to gain basic licences such as chemical certification, forklift and driver's licences or having overseas qualifications recognised will also be required to enable career pathways for this cohort. Foundational requirements (housing, visas, family and community) for CaLD employees (and any other employees from cities) moving to regional areas will also need to be thought through as part of the attraction and retention package.

4.1.2 DIGITAL SKILLS AND CAPABILITIES

There is a general understanding that digital and artificial intelligence (AI) technologies are transforming the world of work and that today's workforce will need to learn new skills and learn to continually adapt, regardless of the industry.

Skills Impact, KPMG, Faethm and The University of Queensland produced the *Agricultural Workforce Digital Capability Framework* report²⁶ with support from all the Research and Development Corporations. According to studies underpinning the report, the agriculture sector was found to have low-levels of digital maturity and although this varied across the supply chain, it was found that there is a consistent lack of proficiency in operating technologies and digital devices applicable to business activities and processes²⁷.

To assist the agriculture industry in moving forward, the Agricultural Workforce Digital Capability framework (Framework) was developed. The Framework has identified a set of six digital capabilities and five enabling capabilities for agriculture sector to thrive. The digital capabilities include digital literacy, technology operation, data management, data monitoring analysis and interpretation, digital communication and incident management. While enabling capabilities include process improvement, personal learning and mastery, collaboration, business transformation, critical thinking.

The Framework provides practical guidance for future work needs and upskilling opportunities for industries to meet technological challenges in a rapidly changing environment. Complementing this Framework is a training and curricula handbook for education and training providers and a questionnaire and self-assessment approach²⁸.

In addition to this Framework, the Federal Government released its *Digital Foundations for Agriculture Strategy* in March 2022 which included a funding commitment to place Digital Officers (including a Digital Strategist) in each of the eight existing regional Innovation Hubs. Digital Officers will be expected to provide extension activities to support the uptake of digital technologies by farmers, and will also feedback a 'grass-roots

²⁵ *Skills Gaps in Agriculture and Skills of Culturally and linguistically Diverse People*, RMCG Final Report for Agriculture Victoria, 2022

²⁶ https://www.crdc.com.au/sites/default/files/Agricultural%20workforce%20digital%20capability%20framework_Report_Final%20deliverable.pdf

²⁷ <https://www.voced.edu.au/content/ngv%3A87300>

²⁸ <https://www.skillsimpact.com.au/vetinsights/digital-skills/>

perspective' on digital needs to inform the activity and priorities of a new \$30 million National Centre for Digital Agriculture²⁹.

4.1.3 LEADERSHIP AND INTERPERSONAL SKILLS AND CAPABILITIES

Several existing frameworks and initiatives address the development of personal attributes needed in the contemporary workforce, with the most clearly structured programs focused on 'leadership development'. These programs and frameworks describe a range of 'leadership attributes' such as the capacity to influence others through clear and empathic communication, the capacity for critical self-appraisal and self-regulation, and a curious and analytical mindset to achieve effective problem-solving³⁰.

Relevant leadership frameworks and programs have been funded, developed and/or delivered by a range of Research and Development Corporations including Hort Innovation, Fisheries Research and Development Corporation (FRDC), Dairy Australia and other organisations (e.g. Australian Rural Leadership Foundation, Regional Leadership Australia) and government agencies (e.g. Regional Development Victoria – Regional Community Leadership Program). Some relevant RDC examples are outlined below to highlight key insights from these initiatives.

Hort Innovation

Hort Innovation has long supported the provision of initiatives to support professional development and leadership across the horticulture sector (i.e. through Hort Frontiers Leadership Fund) and specifically for the vegetable industry (e.g. Growing Leaders program, 2019). A review of the Hort Frontiers Leadership Fund programs along with consideration of other leadership programs highlighted aspects that should be considered in the design and delivery of such initiatives, such as:

- Contemporary leadership need to include horizontal (technical competency) and vertical (behavioural change and emotional health) capabilities and can occur at all levels of an industry or business
- A portfolio of activities is needed to tailor activities to the target audience and consider previous education, stage of career, under-represented groups, barriers to participation and blending with technical skill concepts
- Ongoing support for individuals to test and develop their leadership skills (e.g. through shadowing of more experienced/senior staff and opportunities and support to participate in industry committees or other new challenges).

Fisheries Research and Development Corporation

FRDC's strategic planning over the past 20 years has consistently identified leadership development as a priority. Their National Seafood Industry Leadership Program (NSILP) commenced in 2000 and has delivered 300 graduates to date. The NSILP purposefully targets diverse participants for leadership development, including diversity with respect to age, gender identity, type of role, and sector within industry.

The format of the program involves guest speakers, networking events, small group work focused on an industry-relevant project and an alumni program. The group work involves presenting to industry and government where they can seek assistance to complete them, with projects covering the promotion of industry to schools, school leavers and community and digital learning.

Identified benefits of the program include collaboration across sectors and roles, increased skills, knowledge, and industry networks to initiate leadership experience and an understanding of teamwork.

Forestry and Wood Products Australia

²⁹ <https://www.agriculture.gov.au/sites/default/files/documents/digital-foundations-agriculture-strategy.pdf>

³⁰ <https://www.mckinsey.com/industries/public-sector/our-insights/defining-the-skills-citizens-will-need-in-the-future-world-of-work>

Forest and Wood Products (FWPA) contracted the Australian Rural Leadership Foundation (ARLF) to develop and deliver their two-year Regional Collaborative Leadership Program in 2019. The program was aimed to develop mid-level managers to increase their capacity to take national leadership roles. The program featured facilitated sessions (covering adaptive leadership, behavioural leadership skills, social licence and storytelling and collaboration skills), external consultants, alumni and panel presentations and project work. Learnings from the delivery of the program noted that for participants to maximise the opportunities of the leadership program, there is a need for:

- FWPA to formally communicate with participants' employers to ensure understanding and relevance to the industry and value in investing in their staff
- Formalised follow-up of program graduates at three, six and 12 months to provide development support.

Dairy Australia and Australian Dairy Farmers

In August 2021, Australian Dairy Farmers launched their Dairy Industry Leadership Strategy. The Strategy set out a vision of leadership that encompassed all workers. A key principle is "that everyone is or can become a leader through leading self, leading with others or leading the community and industry"³¹. This positioning represented a shift away from the more traditional view of leaders as senior employees with specific role titles including 'leader', 'manager' or 'supervisor'.

The Dairy Australia Capability Framework which comes with the Strategy provided a series of 'I' statements associated with a 'leadership mindset', which they designated as applicable across the full spectrum of roles in the dairy industry, from dairy hand to managing director.

Dairy Australia delivers the People in Dairy program which provides a range of resources to support dairy producers to be 'an employer of choice'. Resources cover recruitment, employment processes and management of staff that can help underpin business success. These resources are available through the DA website³² and include webinars as well as face-to-face training delivered through DA regional groups

4.1.4 BUSINESS STRATEGY AND RISK SKILLS AND CAPABILITIES

Australian horticultural producers have always needed to adapt and respond to changing circumstances but the combined pressures of extreme weather events, global supply chain disruptions, labour shortages, the trend toward farm consolidation and sharp increases in input costs mean producers increasingly need advanced skills in business management and strategy development. Some examples of key factors driving the need for advanced business skills are outlined in Table 0-1.

Table 0-1: Examples of factors driving business skills

FACTOR/DRIVER	SKILLS
Increasing size and/or complexity of business	Strategy, financial management, business planning/management, cost of production, record keeping, investment decisions, commercialisation, managing growth, compliance (legislative / regulatory), quality systems, managing risks
Increase in competition and need for marketing or products / brand to differentiate and maintain market share	Understanding markets and consumers, marketing / promotion / selling, exporting, product development, supply chain management, product development
Free trade agreements have opened opportunities for market access to Australian farmers.	Skills and capabilities required in how to export food to emerging markets and global logistics.

³¹ <https://australiandairyfarmers.com.au/purpose-of-strategy/>

³² <https://thepeopleindairy.org.au>

FACTOR/DRIVER	SKILLS
Online shopping and ordering has increased the sales footprint of many organisations leading to an expansion in the delivery and sourcing of products from longer distances. Logistics management is a growing skill need for small to medium enterprises.	Higher level supply chain and logistics skills required to support lean, fast, reliable, transparent and collaborative relationships with key suppliers and customers and with other companies, including competition and research organisations
Investment in integrated technology, such as robotics and digital and wireless technology to monitor farm operations and detect crop issues. Also, requirements for quality standards in operations, and industry databases (including commodity-specific production platforms and other technology platforms)	Need for skills in strategic planning, risk management, mergers and acquisitions, online marketing business development and financial planning to respond to the dynamic and changing operating environment, with increased competition and opportunities to reach global markets.
Impact of carbon emissions (including policy framework to mitigate)	Scanning and understanding impact of global supply chain scrutiny on carbon emissions Preparing for implications of carbon trading (e.g. carbon sequestration).

4.2 APPROACHES TO PEOPLE DEVELOPMENT

There are several strategies that are often deployed in people development programs across the agriculture, horticulture and allied sectors, which include:

- **Technical training** – identification and provision of specific training (often within the VET system) aimed at developing the participant's hands-on skills. These courses are usually delivered and completed over a short timeframe and result in assessment and certification of competence as evidence of successful completion.
- **Coursework** – including courses delivered by universities and proprietary providers (e.g. BSM Global; Carbon Farmers Australia; IPM Technologies), aimed at higher level knowledge including background theory relevant to production. These can be short courses, self-paced learning, residential or over a longer timeframe (e.g. Diploma, Graduate Certificate).
- **Leadership training** – usually over a long timeframe and engaging the participant in group learning with other participants. Sometimes training is delivered online. Leadership training with a face-to-face component is usually designed to simultaneously develop participants' professional network or increase access to peer support.
- **Structured mentoring** – these are designed and offered by member associations or government agencies. Mentees who apply to participate are matched with experienced farmers, leaders, or extension specialists who have volunteered to mentor. Programs generally run over several months to a year, and usually involve some face-to-face interaction between mentor and mentee.
- **Study tour** – short, highly specific, often international. These usually involve one or a small number of people investigating specific topics. They often have the objective of supporting and fast-tracking uptake of new technologies or practices ('international best practice') for greater productivity or improved global competitiveness.
- **Individual research project** – long-form investigation of a self-nominated topic, often including funded travel and a requirement to report back for the wider benefit of the funding sector or community (e.g. Nuffield and Churchill scholarships). They also include industry-embedded Masters or Doctoral research.
- **Networks and networking** – include formal alumni groups, ongoing support for employees in their leadership journey and career pathway development.
- **Specific programs** - for CaLD employees (or potential employees) and other under-represented groups including workplace English.

Each of these people's development strategies has slightly different aims, for example, increased skills, networks, resilience, or subject knowledge. They also require different levels of personal commitment on the

part of the participant, different degrees of independent thinking and action, and there are a range of expectations around self-management and motivation. Flexibility for participants is a key theme of many successful people development programs. Offering participants a range of strategies ensures participants are well supported in their career/leadership development.

Other relevant strategies from a range of other industries include, for example³³:

- Job shadowing
- Pairing employees for peer coaching
- Knowledge sharing activities
- Industry training days
- Competency frameworks and skills passports
- Advanced apprenticeships
- Graduate programs
- Career pathway programs
- Work integrated programs.

Some of these strategies and examples of current and/or successful programs are further detailed in the following sections 4.3.2 – 4.3.6.

4.3 ATTRACTION AND RETENTION OF STAFF

There are numerous strategies in which businesses, industries and government can support the attraction and retention of people to particular roles, sectors and regions. Many of these strategies are currently being implemented across the agriculture and horticulture sectors. Those of relevance to the mushroom industry are briefly outlined below.

4.3.1 GOVERNMENT POLICIES, PROGRAMS AND FUNDING

Government policies, programs and funding play an important role in helping industries and regional areas both attract and retain workers, for example:

- The Commonwealth Government has supported Higher Apprenticeships as an option for career pathway programs to attract high-achieving students in areas of industry need. They are beginning to broaden the program to include sectors other than trades. Refer to 'Apprenticeships and Traineeships'
- Australian Government's Destination Australia Program allows regional universities and vocational education providers to apply to offer scholarships of up to \$15,000 a student per year in a drive to boost student numbers in regional Australia.
- Work Integrated Learning (WIL) by the Australian Collaborative Education Network supports employers and universities in programs with \$1500 scholarships available to students who do their WIL component in regional areas. Equity scholarships are also available for other under-represented groups.
- The National Centre for Vocational Education Research (NCVER) has relevant data on Vocational Education and training including an interactive infographic showing the different school-to-work pathways for 16–25 year olds³⁴. It highlights that there is an appetite for different pathways other than the 'school-uni-work' pathway.
- My Skills/Your Career³⁵ is the Australian Government's one-stop-shop connecting job-seekers with courses, employers and funding opportunities

³³ <https://www.togetherplatform.com/blog/people-development>

³⁴ <https://www.ncver.edu.au/research-and-statistics/infographics/visualising-school-to-work-pathways-using-lsay>

³⁵ <https://www.myskills.gov.au/>.

- AgCAREERSTART³⁶ is a gap year program targeting 17–25 year olds that features full-time paid farm job and training and development activities, including a \$4,500 training bursary. The program is funded by the Department of Agriculture, Fisheries and Forestry with support from the National Farmers Federation

4.3.2 CAREER PATHWAYS PROGRAMS

Career pathway programs designed for a business or industry provide employees with an ongoing mechanism to enhance their skills and knowledge that can lead to mastery of their current jobs, promotions and transfers to new or different positions. Such programs benefit an organisation through improving morale, career satisfaction, motivation and productivity. Employees are generally more engaged when they believe that their employer is concerned about their growth and responsiveness in meeting departmental and organizational objectives.

Career pathways designed with students offer a range of educational and work-based learning opportunities that allow students to explore their interests, build their skills, and gain practical experience. Such programs should ensure that students are well-prepared for the challenges of the 21st-century workforce and are equipped with the tools they need to achieve their career goals. Importantly offering a variety of pathway programs provides more equitable opportunities for students with different interests, strengths, and needs to succeed.

A review of highly valued and successful career pathway programs from overseas and Australia has several key features in common, as outlined in Table 0-2.

Table 0-2: Features of successful career pathways programs

FEATURE	DESCRIPTION
Working together	Industry, chambers of commerce, employers, educational bodies (schools and higher education), careers counsellors all working together rather than in silos. If they can be co-located even better.
Long term vocational orientation	Long term vocational orientation begins as young as 13 (Switzerland and Germany) but preferably from primary school, with work experience and support programs continuing until the workers were settled into full time work.
Fostering life-long learning	Career skill development, work integrated learning and apprenticeships are crucial to the success of life-long learning and empowering individuals to manage their own careers and provide clear pathways into the workforce.
Use of support staff and mentors	The importance of apprentice/trainee and training support staff and mentors within companies or for companies to ensure training benefits all parties and trainees are properly embedded in the organisation. In other words, new staff are doing work that adds to the business and are mentored to ensure they are working at their best and feel part of the team.
Providing a one-stop shop	A one-stop shop approach with a common touch point for diverse users of different ages. This can have multiple access channels including face-to-face and online options. Finland has One-Stop Guidance centres and an e-guidance service which connects educational institutions, social and health services, voluntary organisations and other bodies that work with young people in one location ³⁷ .
Providing a variety of options	A variety of options including apprenticeships, traineeships, graduate programs and internship programs. Various pathways according to the interest and stage of life of applicants and needs of organisations. Some include a generic pathway program i.e. new staff get to work across the organisation to experience e.g.

³⁶ <https://agcareerstart.com.au>

³⁷ International Centre for Career Development and Public Policy, 'Finland: One-Stop Guidance Centres and e-Guidance services', [website] <http://iccdpp.org/portfolio/finland-one-stop-guidance-centres/>, (accessed May 2017).

FEATURE	DESCRIPTION
	accounts, legal, frontline, specialist areas. If the organisation is big enough to support this, it can be valuable for retaining staff, as they can see which area they are most suited to working in. Or, as in the case in the United Kingdom (UK), Local Government system, a program where new staff work across several different Local Government Areas to be exposed to a broader suite of contexts. To consolidate their approach to recruitment and retaining staff, the UK has a Management Trainee Program (two years) for graduates.
Clear governance	Essential to support the collaboration of many stakeholders from industry and education and training sectors to work together for success.
Conduits and partnership brokers	Use of conduits and partnership brokers between industry and education/training and job seekers and jobs can make it easier for organisations to efficiently make connections and set up governance arrangements.
Localised Support	Localised support to improve success. The best practice example of this is in Switzerland where the local support organisation provides marketing, facilitation of industry connections and mentoring for apprenticeships, improving the success of apprenticeships ³⁸ .

4.3.3 APPRENTICESHIPS AND TRAINEESHIPS

Apprenticeships and traineeships provide a structured and paid pathway to employment and can offer a way to develop current and potential staff in specific skills. If well supported by a Group Training Organisation, TAFE or similar, the benefits include:

- Allowing new people to learn on the job and in the classroom whilst being paid
- Reducing risks around human resources, industrial relations and WHS
- Providing a clear career pathway and recognised qualifications
- Supported introduction to the workplace
- Students gaining on-the-job experience and can test whether this is their career option of choice
- Ability to support achieving diversity targets within employee cohort with specific incentives for mature-age workers and people with disabilities
- Additional support in the workplace with attraction, recruitment and retention of apprentices and trainees through the combined efforts of the Australian Apprenticeship Support Network, Group Training Organisations (GTO) and Registered Training Organisations (RTOs).

For people from CaLD backgrounds, these additional benefits include:

- More opportunities to engage with the broader workforce provide more opportunities to improve their English skills
- Provision of better and more secure career pathways than casual work which can “pigeonhole” some workers into low-skilled work
- If designed well, they will learn across several areas of the business or potentially across several farms increasing both skills and experience.

According to NCVER research in 2019, utilising a GTO to employ apprentices can ensure a higher rate of completion for non-trade apprentices/trainees when compared to direct employment³⁹. For small and medium employers, this is substantially higher.

However, barriers to enabling apprenticeships and traineeships have been reported as:

³⁸ P Forbes and P Norris, 'Understanding student expectations and national and international best practice', AGCAS Conference, 2011.

³⁹ https://www.ncver.edu.au/__data/assets/pdf_file/0043/9659536/Research-messages-2019_A5_Digital.pdf.

- Lack of suitable staff on farm to supervise apprentices/trainees either with subject matter skills or supervisory skills
- Low wages compete with other sectors or casual work that would pay more
- Young people may not have transport to get to farms or fuel costs may be prohibitive on low wages.

4.3.4 HIGHER APPRENTICESHIPS

Higher or Degree Apprenticeships are an emerging area of apprenticeships aimed at meeting the future needs of industry and offering more challenging options for high achievers instead of just the 'school to university to work' option. It also aims to appeal to a more diverse group of people.

Initial trials have been conducted in engineering, project planning and social services extension. They are closely tied to industry needs and include targeted promotion to parents and students so they can see the ultimate goal is to get a good job.

Early indicators show that Higher Apprenticeships offer an opportunity for an alternative approach, where industry demand, due to the changing economy, meets the benefits found in the combination of on-the-job and off-the-job (VET or Higher Education) training through an apprenticeship/traineeship type arrangement.

4.3.5 GRADUATE PROGRAMS

Graduate programs are structured professional development opportunities specifically designed for new or recent graduates and have been shown to be an effective way to attract and retain skilled staff. They are often offered by government departments and large organisations. A recent example of the importance to the agriculture and horticulture sector is the Queensland Farmers Federation's (QFF) Agricultural Extension Work Placement Program, funded through the Queensland Government's Reef Water Quality Program. Organisations where graduates have been working under this Program include the Australian Banana Growers' Council and Mackay Area Productivity Services.

The program showed a high level of retention of graduates, opportunities for professional development for mentors and managers and a decrease in staff turnover overall due to the positive culture, enthusiasm and ongoing shared learnings that the graduates brought to the organisations.

Some of the positive features of the program have included strong project management and communication by QFF, a fully funded program, facilitated networking, structured mentoring and commitment by senior leaders.

4.3.6 INTERNSHIPS AND WORK INTEGRATED LEARNING

Desktop review and stakeholder engagement identified that experience in the workplace was highly valued but often lacking in job applicants. The Foundation for Young Australians, after following the journeys of 14,000 young people over ten years from ages 15-25 had several recommendations for what was required to support young people in equipping and empowering them with the skills, mindset and confidence to navigate work. The recommendations included:

"A commitment to work integrated models of learning to ensure opportunities to gain critical relevant work experience" (Foundation for Young Australians, The New work reality, 2018).

A review of international research from NCVER in 2020 strengthens the case further and links work-related learning with better employment outcomes for VET students productivity gains and strong return on investment for employers in the form of job-ready workers. It points to the following best practice:

- For employers - invest in training for workplace mentors, establish clear expectations, create environments conducive to learning, provide appropriately challenging work, investigate how work-based education programs operate in other organisations
- For training providers - define responsibilities, provide support and guidance for students, match students with employers, make workplace expectations clear, prepare students for difficult experiences, encourage employers to offer paid placements
- For policy-makers - create environments more conducive for employers and students to participate in work-based education programs by setting quality standards and incentivising effective work-based education programs⁴⁰.

Some university courses organise internships or have incorporated Work Integrated Learning (WIL) programs into their courses. These vary in length with some paid and some not. Most of them are for final-year students only, although with the changes in higher education this year, there appears to be an appetite to extend this to commence from first year. A website is available to support employers and universities enable WIL⁴¹. It showcases a deep partnership between Victoria's Brimbank City Council and RMIT University⁴², which has enhanced students' work preparedness, provided opportunities for young people to provide benefits to give back to their local community and provided the council with new ideas, extra research and potential talent for recruitment.

Engineering students often need to complete a 12-week placement in their final year in order to be accredited and this may be an opportunity for horticultural industries to consider given the increasing need for digital, mechanical and other technical skills as production systems and supply chains become larger and/or more complex. These placements help industry to have a direct role in graduate preparation and universities receive feedback on the relevance of their programs.

4.4 ATTRACTION AND RETENTION OF YOUNGER PEOPLE

The average transition time from education to work is 4.7 years as compared to 1 year in 1986⁴³. According to the Foundation for Young Australians, there are four factors that can accelerate the transition from full-time study to full-time work. Three out of the four factors can be influenced as part of a careers pathways program. These include:

- **An education that builds enterprise skills** – working with higher education providers on any type of work-related learning will benefit young people's skills and confidence and provide a much-needed pipeline of new workers.
- **Being able to undertake relevant paid work experience** – providing paid apprenticeships, traineeships or cadetships to young people will be an incentive for them to choose the business/sector over other organisations.
- **Finding employment in a sector that is growing** – skills in growing and producing food, across the whole supply chain, will always be in demand.

4.4.1 WHAT YOUNGER PEOPLE ARE SEEKING

Research on what younger people are seeking from jobs and their careers has shown it to be generally values-based. They are looking for work that allows them to contribute to their 'wider purpose'. Having a positive impact and embracing a sense of purpose are "mandatory" for attracting younger workers⁴⁴.

⁴⁰ Work-based education in VET, Kristen Osborne, Maree Ackenhurst, Leesha Chan and Rose-Anne Polvere, National Centre for Vocational Education Research

⁴¹ <https://wil-innovation.acen.edu.au>

⁴² <http://acen.edu.au/innovative-models/project/the-lasting-impacts-of-deep-partnerships/>.

⁴³ https://www.fya.org.au/wp-content/uploads/2018/06/FYA_TheNewWorkReality_sml.pdf.

⁴⁴ <https://time.com/6176169/what-young-workers-want-in-jobs/>

In a recent webinar by Farmers for Climate Action, called “Harvesting Hope: the power of young people in Agriculture”, the younger presenters spoke about several factors that attracted them to agriculture and kept them motivated. Aside from well-known workplace practices (e.g. flexibility in location and/hours and positive workplace culture), the speakers referred to the following related to development needs:

- Language around staff – the importance of talking about staff as humans rather than commodities
- Value of sharing positive stories from the land (e.g. from the agriculture sector)
- Inspiring curiosity can be hugely powerful in cultivating engagement
- Broaden learning beyond the technical requirements of a job – young people are looking at the whole so wish to build liveable communities around agriculture, and link their work to food security which is a fundamental human right
- Human connection is a natural state so encourage membership of larger support groups (e.g. community leadership programs, Future Farmers Network, RRR women, Young Farmers Advisory Council).

For this last point, these groups provide informal learning about technical aspects around who is doing what well or what went wrong and why? The young presenters noted the networking and motivational benefits of being part of these groups.

Appendix 2: Consultation Interview guide

INTERVIEW QUESTIONS

1. What are your current main issues related to people development?
2. What do you see as your emerging people development needs in the medium to long term?
3. What key skills and/or capability gaps do you:
 - a. currently have?
 - b. think you will have in the future (include long-term 10-15 years)? These are skills and capabilities that are critical to your business/industry.
4. How are you looking to fill these gaps or upskill people?
5. What has worked/not worked before in developing your staff? What has been your biggest success in developing staff?
6. Do you believe there are any barriers to developing your present or future staff? If so, what?
7. What would make it easier to develop your staff?
8. What are staff interested in? i.e. Has there been great take-up?
9. Does your organisation/industry have any enabling factors?
10. If you had to pick the most important one(s) in helping staff develop and ultimately retaining them – which one(s) would you pick?
11. Do you currently employ people from CaLD backgrounds/people with disabilities?
12. What challenges and opportunities have you seen through this experience?
13. Are there any challenges or opportunities in developing staff members from CaLD backgrounds?
14. Are you aware of any support in your region for CaLD groups? E.g. settlement support, housing, visas, cultural/pastoral care
15. What possible options have you seen to overcome any barriers? Is there anything that industry could do to help?

Appendix 3: Mushroom People Development Strategy – Action Map

The following is a suggested Action map for the Australian mushroom industry, however please note that the development of this Action map has not involved consultation with AMGA, Hort Innovation or other potential implementation parties. As such it should be taken as a suggestion only.

Attraction

GOAL: A DIVERSE AND CAPABLE WORKFORCE IS ATTRACTED TO CAREERS AND EMPLOYMENT IN THE MUSHROOM INDUSTRY.

STRATEGY	ACTIONS	IMPLEMENTATION	PARTNERS AND RESOURCES
Raise the profile of the mushroom industry	Implement an engagement strategy that raises awareness of careers, education and training, comparable salaries and conditions, and job opportunities for young people in the mushroom industry to address misconceptions and misinformation. Focus areas to include: - Jobs of the future include agtech and digital horticulture - Integrated training and career paths - Entrepreneurship and leadership in horticulture.	AMGA to work with government organisations, not for profits and Hort Innovation to deliver actions.	Government: Jobs and Skills Australia Not for Profit: Primary Industries Education Foundation Australia (PIEFA) National Careers Institute: (Department of Employment and Workplace Relations) – AgATTRACT career mapping in agriculture includes development of case studies and videos (https://www.yourcareer.gov.au/resources/videos/agriculture).
	Leverage and collaborate with existing programs, such as School to Industry Partnership Program, Gateway Schools and gap year initiatives, to develop and implement immersion, work experience and engagement opportunities for school students in the mushroom industry.	AMGA to work with government organisations to deliver actions Producers to engage with schools and their local community to run tours to raise awareness of the mushroom industry.	Government: Queensland Department of Agriculture and Fisheries - Further information on the Agribusiness Gateway to Industry Schools project available at https://www.daf.qld.gov.au/business-priorities/agriculture/initiatives/agribusiness-gateway-schools-program - The Agriculture Schools Engagement Program (ASEP 2020) was delivered by Agforce Queensland and funded by the Department of Education, Small Business and Training. Further information available at: https://www.agforceqld.org.au/assets/desbt-april-dec-2020-report.pdf

STRATEGY	ACTIONS	IMPLEMENTATION	PARTNERS AND RESOURCES
	Develop industry-level “value proposition” to attract and retain skilled staff and promote the mushroom industry	▪ AMGA to develop and deliver ▪ AMGA to include a ‘jobs board’ on their website to help growers advertise available roles.	▪ Refer to Case Study 1 of Mushroom People Development Strategy for relevant examples.
Improve recruitment and job readiness	Link young people and industry entrants with employment opportunities by formalising the adoption of a pre-employment credential, such as Farm Ready Card, that meets industry needs and standards	▪ AMGA to work with government organisations and other industry associations to deliver actions.	▪ Rural Jobs and Skills Alliance (Queensland Farmers Federation) ▪ Further information on the Farm Ready Card and Skills passport available at: https://farmreadyhub.com/how-it-works-3/ ▪ Refer to Case Study 2 of Mushroom People Development Strategy for relevant examples.
Value diversity and inclusion to expand the pool of potential candidates	▪ Explore what attracts and retains the current cohort of CaLD workers to the mushroom industry and how they can develop a career beyond entry-level. ▪ Work with CaLD support agencies to develop or assist with a two-way cross-cultural awareness session(s)	▪ AMGA to partner with CaLD support service groups such as ethnic community councils, some local government authorities and AMES Australia to create EAL friendly tools for training.	▪ AMES Australia https://www.ames.net.au/business-and-government/partnership-program

RETENTION

GOAL: THE MUSHROOM WORKFORCE HAS ACCESS TO FLEXIBLE PATHWAYS TO PURSUE REWARDING CAREERS AND EMPLOYMENT OPPORTUNITIES.

STRATEGY	ACTIONS	IMPLEMENTATION - LEAD	PARTNERS AND RESOURCES
Develop flexible career and employment paths	- Partner with industry and education providers to clarify and promote regional career paths for industry groups to target audiences - Create appropriate resources to provide information on career paths - Investigate a mushroom careers pathway program for new people.	Hort Innovation to consider developing a Hort Frontiers 'career pathways in horticulture' project Producers to provide career pathway examples of employees who have upskilled AMGA to feature long term industry personnel in industry communications and feature career pathway case studies on significant days such as 'Women in Ag' Day.	- Career Harvest https://www.careerharvest.com.au - PIEFA - Australian Council of Deans of Agriculture - Refer to Case Study 3 of Mushroom People Development Strategy for relevant examples.
	Collaborate across sectors to develop graduate programs to strengthen pathways into the mushroom industry	AMGA and producers work together to develop.	Refer to Case Study 4 of Mushroom People Development Strategy for relevant examples.
Promote healthy work place culture	Develop and promote enabling factors such as flexible work, inclusive workplace culture, professional development opportunities and networking using industry best practice examples.	Producers to provide on the job training, flexible work conditions and inclusive workplace culture AMGA to support producers in celebrating significant days such as 'Women in Ag' Day.	Refer to Case Study 7 of Mushroom People Development Strategy for relevant examples.

SKILLS AND CAPABILITY DEVELOPMENT

GOAL: AUSTRALIA'S MUSHROOM WORKFORCE IS APPROPRIATELY SKILLED AND SUPPORTED BY FLEXIBLE TRAINING (AND DEVELOPMENT) AND EDUCATION PATHWAYS THAT ARE INDUSTRY-LED AND RESPONSIVE TO INDUSTRY TRENDS.

STRATEGY	ACTIONS	IMPLEMENTATION - LEAD	PARTNERS AND RESOURCES
Develop workforce skills in agtech and digital horticulture	Engage with government and the education and training sectors to advocate for training courses that meet industry skill needs.	▪ AMGA to work with government organisations and not for profits to deliver actions.	▪ Skills Insight https://skillsinsight.com.au/about/
	Work with other organisations to improve adoption of technologies and innovation by agronomists and advisors.	▪ AMGA to work with government organisations and not for profits to deliver actions.	▪ Refer to Agricultural Digital Support Work Placement Program delivered by the Queensland Farmers Federation https://www.qff.org.au/projects/agtech-officer-placement-program/
	Investigate Advanced or Higher Apprenticeships to create pathways into horticulture for technology students	▪ AMGA to work with government organisations and not for profits to deliver actions.	▪ Refer to Case study 5 of Mushroom People Development Strategy for relevant examples ▪ Refer to Ag Trade Apprenticeship Project at: https://skillsinsight.com.au/project/ag-trade-apprenticeship/
	Collaborate with universities to access the latest research and enable on farm application	▪ AMGA to work with Hort Innovation to deliver actions.	▪ Refer to Case study 6 of Mushroom People Development Strategy for relevant examples.
Provide flexible education and training pathways into employment	Develop bridging opportunities, extension and pathways for school leavers and VET and university graduates into work experience including: ▪ Provide graduates with access to guidance and mentors to support transitions from study to employment ▪ Progression of horticulture apprenticeship/s.	▪ Producers and AMGA to work with universities to provide industry placement and graduate positions.	▪ Ag Career Start pilot https://agcareerstart.com.au/info-for-farmers/ ▪ National Farmers Federation and Department of Agriculture, Fisheries and Forestry.
	Expansion of graduate placement programs that include work experience, mentoring, training and extension opportunities for graduates	▪ Producers and AMGA to work with universities to provide graduate positions.	

STRATEGY	ACTIONS	IMPLEMENTATION - LEAD	PARTNERS AND RESOURCES
	Support Work Integrated Learning for graduates by providing industry placement positions.	▪ Producers and AMGA to work with universities to provide industry placement positions.	
Strengthen innovation and collaboration	Continue to support a regular industry conference, extension activities such as pest and disease workshops and consider an annual 'R&D roadshow' to facilitate regional attendance	▪ Hort Innovation and mushroom SIAP to fund workshops, using the R&D levy, featuring international experts to upskill mushroom industry members ▪ AMGA to develop with Hort Innovation R&D levy funded programs to upskill and attract new industry members such as a 'mushroom farm hygiene mini series'.	
	Continue to support the Marsh Lawson Centre and future researchers to enable future industry focussed research	▪ Hort Innovation and mushroom SIAP to use R&D levy funds to support Centre and provide PhD scholarships.	
	Develop a microbiology 'microcredential' course in collaboration with Sydney University to upskill managers and leaders within the mushroom industry.	▪ AMGA to work with Sydney University to deliver action.	

SUPPORT AND CAPACITY

GOAL: AUSTRALIA'S MUSHROOM INDUSTRY AND THEIR WORKFORCE ARE LEADERS IN ADOPTING CONTEMPORARY TECHNOLOGIES, PEOPLE LEADERSHIP AND MANAGEMENT PRACTICES AND INNOVATIONS.

STRATEGY	ACTIONS	IMPLEMENTATION - LEAD
Build business and leadership capability	Support and promote opportunities for industry members to complete the University of Tasmania's Graduate Diploma in Agribusiness: Masterclass in Horticultural Business.	▪ Producers to fund and provide time for employees to attend professional development opportunities ▪ AMGA to promote industry wide professional development opportunities.
	Support and promote opportunities for industry members to complete a Nuffield or Churchill project.	▪ Hort Innovation and mushroom SIAP to contribute fundings for Nuffield Scholarships ▪ Producers to provide time for employees to attend professional development opportunities ▪ AMGA to promote industry wide professional development opportunities.
	Develop accessible seminars or taster sessions inhouse or with other horticulture businesses on interpersonal and leadership skills for different levels of employees (frontline managers, senior leaders and aspiring leaders)	▪ AMGA and training providers work together to develop sessions.
	Have knowledge of, promote and support mushroom employees to attend other horticulture leadership training opportunities	▪ Hort Innovation and mushroom SIAP to consider funding international study tours.
Enhance resilience and readiness	Support and inform workforce planning projects such as AgriFutures ' <i>Mapping the workforce of Australian Agriculture</i> ' by providing workforce data to inform future workforce planning for the mushroom industry.	▪ AMGA to work with mushroom producers to provide data for workforce planning projects.
	Support small to medium businesses by providing resources and training (webinars and taster sessions) on standard workforce practices and requirements (such as payment of wages and super) and regulatory requirements (such as food safety).	▪ AMGA and training providers work together to develop sessions and resources.
Workforce strategy and planning	Include people development indicators in benchmarking activities to raise importance to industry	▪ AMGA to work with mushroom producers to provide data for workforce planning projects.
	Develop business succession plans to identify who needs to be "upskilled" in what areas and specific roles and capabilities	▪ Mushroom producers to develop workforce development plans.

This report has been prepared by:

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