

Final Report

Review of Nursery Industry Career Pathways

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Review of Nursery Industry Career Pathways – NY17002

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Summary

The nursery industry supply chain is a significant sector of the Australian horticultural industry, and includes plants grown for horticulture such as fruit and vegetables, landscaping and ornamental retail supply chains as well as forestry. The sector is valued at more than \$2.4 billion, and employs approximately 25,000 people in more than 1,600 small to medium enterprises. Yet the industry, like many other agricultural industries, faces major challenges around high staff turnover and an ability to attract and retain qualified people via offering attractive working conditions and career pathways.

Strategy development

This project has developed a strategy and tactical plan that provides a clear roadmap for skilled career path development of the industry in the short to medium term, and longer-term strategies to sustain an interest in working in the industry for the future. It is based on a desktop review and intensive consultation with the nursery industry.

The strategy and plan considers the current skilled employment and training situation in the nursery industry and recommends a five-pillar strategy to attract, retain and develop a skilled nursery industry workforce to underpin the economic sustainability of the sector for the future.

The following strategies have been identified :

1. **Industry promotion and awareness** including active and passive promotion strategies, positive messaging and capitalising on existing industry brands;
2. **Policy parameters** to advocate and promote the value of the nursery sector for government support;
3. **Training system (formal and informal)** to support the targeted design and delivery of training programs that support the upskilling of the nursery industry at several levels;
4. **Human resource management practices** support to ensure adequate employment standards across the nursery industry; and
5. **Defined jobs and career pathways** to demonstrate dynamic career opportunities within the nursery sector to those in horticulture and other relevant sectors.

A vital aspect of the strategy is that its five 'pillars' are interconnected and thus have to be addressed in a coordinated way to achieve the intended outcomes.

Recommended strategy implementation

The proposed implementation approach includes a dedicated personnel resource to drive the implementation of the strategy, preferably hosted with a peak industry body, or demonstrated partnership linkages.

Oversight of the position should be provided through an industry committee comprising of growers and key industry stakeholders, to ensure the alignment and targeted delivery of activities to meet industry expectations.

Strong partnership development will be required with core delivery partners including education and training providers, service agencies and other industry stakeholders. Discrete project activities may be required to be delivered through contracted service providers with specialist skills to provide the relevant standard of product to the industry.

Initial delivery timeframe should be three years, at which point the strategy and delivery model should be reviewed and refreshed to accommodate changing employment market and training conditions, and consolidate effort and energy based on progress to date.

Extension of findings

Project findings, recommendations and the strategy have been presented to industry via a webinar, and information provided to the nursery industry communications project for publication.

Keywords

Nursery industry; skills; training; education; career pathways, sustainability, human resources

Introduction

Attracting, retaining and developing a skilled workforce is a pressing challenge for all Australian agricultural industries, it is not a unique issue to the nursery sector. Several studies have provided empirical evidence of the compounding issues that are identified to have progressively contributed to the challenge of securing a skilled workforce for agricultural industries, including:

Industry inherent challenges

- The nursery industry is multifaceted; those not involved in the industry have little understanding of its business structures and activities.
- Poor promotion of the industry as an employer of choice, including lack of clear career pathways within the industry and too frequent presentation of a negative self-image.
- Poor promotion of horticulture and career opportunities to people trained in relevant related disciplines such as logistics, business management, IT, engineering.
- Lack of engagement with the education and training sector and promotion of training.
- Industry image, employment conditions including remuneration and skilled supervision, work place conditions (real or perceived).
- Reluctance by the local industry to engage skilled migrant labour
- Small to medium enterprises cannot afford to employ several specialists; they require multi-skilled staff in supervisor and management positions.

Challenges from to the education and training sector

- Low number of people attaining specific agriculture and horticulture qualifications.
- While nursery training packages have been developed by Skills Impact for delivery by RTOs, the system of funding RTOs does not enable delivery of courses unless a minimum of students apply.
- Availability of training courses / services that are relevant, delivered by knowledgeable teachers/trainers accessible in production regions, and cater for people in the workforce at all levels.
- The training sector does not typically promote courses, relies on industry to market courses.
- Training to develop multiskilled staff, particularly soft skill development, is difficult to find or access.
- Apprentices are difficult to find and or the employer has to deal with multiple organisations before being able to employ an apprentice.

Labour market challenges

- Labour competition from other sectors, including mining and coal seam gas who offer better pay.
- The type of work performed, including manual, repetitive and outdoors.
- The predominant disinterest of local unskilled labour to work in horticulture.

Industry training and development is identified as a significant priority of the nursery industry. This is documented in the Nursery Strategic Investment Plan (2017-2021) with *Better career development*, one of the five industry outcomes identified in the SIP, and strategies to achieve this are:

- Promoting the industry as a professional career choice
- Identifying future skill sets needed in the industry
- Collaborating with institutions about industry training and development needs
- Implementing a young leader and development program
- Using future innovators and young leaders to promote and adopt R&D and marketing outcomes within the industry.

Methodology

Overview

The methods employed by the project to develop the strategy engaged with all levels of the industry to:

- Understand the potential source and quantum of trained individuals available to the nursery industry for employment and investigate whether the nursery industry can and does attract these graduates
- Analyse the current nursery industry staffing environment and identify those aspects that are unique and those that are common to other industries
- Investigate the effectiveness of attraction, development and retention initiatives that the nursery industry (and other ag related industries) currently use
- Develop (with industry input) a Strategy to guide the nursery industry in providing better career development options
- Present a plan for implementing the Strategy, which has been developed with industry input and consultation.

Desktop review

A desktop review was undertaken to identify the necessary skills for nursery production in Australia, identify the skills shortage and establish an understanding of the factors that currently cause difficulties with attracting, retaining and developing an appropriately skilled workforce for the present and future needs of the industry.

The review considered the current characteristics of the Australian nursery sector, what the skills needs and shortages are, participation levels in current training offered, existing initiatives and shared lessons from other agricultural industries.

Consultation

Following a baseline desktop review, the nursery industry was consulted via several platforms including key informant interviews, online survey, a industry consultation workshop and validation through a presentation to the Nursery Industry Strategic Investment Advisory Panel.

The stakeholder consultation sought to interview key stakeholders, including representative nursery producers, Nursery and Garden Industry Association State and National bodies, training providers (RTOs, TAFE/Skills Impact and University), state and federal government agencies, and other service providers and resellers to:

- Provide guidance on the needs and expectations of the industry in the development of the strategy;
- Validate findings established through the desktop review;
- Collect relevant additional research, data and project information on career pathways in the nursery sector; and
- Test assumptions and approaches identified as options for the strategy from the desktop review.

Key informant interviews

A key question answered through interviews was the extent to which the issue of attracting and retaining staff related to skilled or unskilled labour.

Online industry survey

An online survey was distributed across the industry to provide an additional avenue for all concerned to provide comment on the study and development of the strategy. A \$200 voucher incentive was provided with the survey to encourage responses, with a total of 29 responses received.

Industry consultation workshop

An industry consultation workshop was held in early December 2018 in Melbourne to coincide with Victorian trials week to ensure the availability of a number of key industry stakeholders during the busy Spring / Summer period. The objective of the workshop was to share and validate the key findings from the desktop review and stakeholder consultation and test the assumptions that emerged during the consultation to define the parameters for the attraction, retention and development of staff in the industry. A total of 14 participants contributed to the workshop discussion.

Industry strategy and plan

As a result of the industry consultation and validation of findings from the desktop review and stakeholder consultation, a strategy and plan to provide guidance on nursery industry career path development was produced.

Extension

Industry webinar

To ensure full industry ownership and adoption of the strategy and plan, a presentation of the report's key findings and strategy was delivered to workshop participants and other stakeholders via the GoToMeeting online platform (webinar) on the 14 April 2019.

Industry communications

Information on project outcomes was supplied Cox Inall who are delivering the Nursery Communications project. From the information they will develop a brief article and video case study on the key findings and the strategy. These extension outputs will be delivered by and shared through key industry publications.

Outcomes

Consultation

Desktop review

The review confirmed the need for both hard (technical) and soft (people management, attitudinal) skills. It identified inherent and developing challenges within the formal training sector due to

- declining enrolments resulting in limited investment in teaching staff and attractive course offerings; and
- a lack of flexibility to quickly accommodate emerging training needs in new technical knowledge areas.

A full copy of the desktop review is provided in Appendix 1.

Key informant interviews

The interviews confirmed there was a universal challenge with attracting both skilled and unskilled labour, and an interest to address workforce attraction in general. Actual skills required was not the main driver for recruitment strategies, rather than attracting potential applicants with the right attitude for the workforce that could be “trained up”. Training options were varied and included on-the-job and study tours favoured over traditional formal courses.

Online industry survey

Responses were received from a diverse range of business sizes across the nursery supply chain, with most businesses recognizing there is a shortage of skilled labour. Emerging trends noted included the difficulty of recruiting skilled supervisory roles within businesses and a preference for good work ethic and demonstrated past experience. Current skill gaps within businesses were reported on people development skills, rather than technical production skills. A greater emphasis was focused on skills development within a business, rather than seeking external training providers. The biggest barriers seen to attracting skilled workers included remuneration and salary conditions, followed closely by limited opportunities for career growth and progression.

Industry consultation workshop

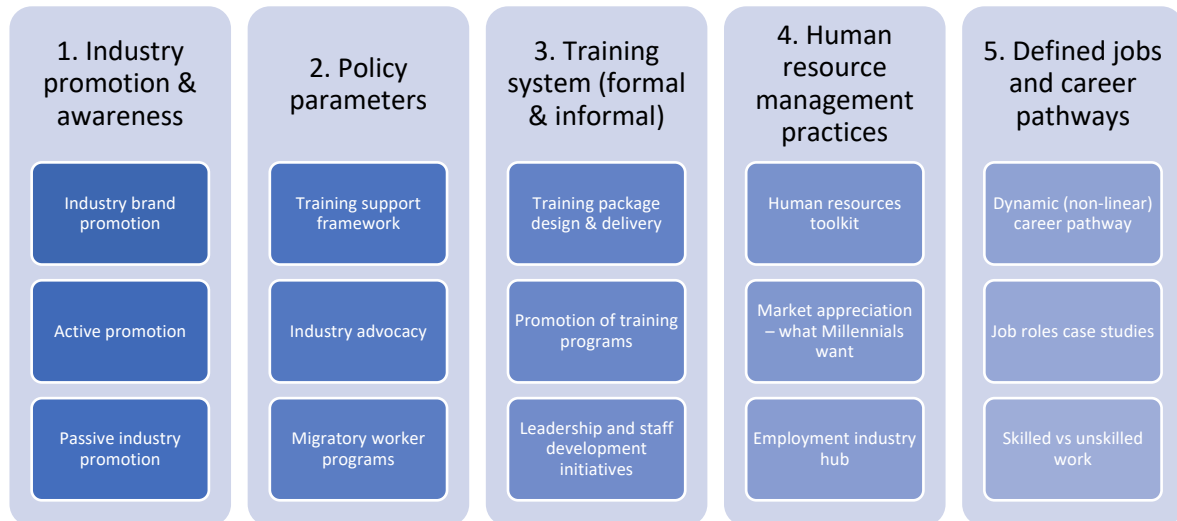
The workshop positively confirmed the findings that had emerged and identified additional challenges of competition from other agricultural sectors and a preference for attitude over education for potential recruits. Questions related to the perception of the industry were identified and the need for the industry to be seen as highly skilled and critical to the future of horticulture production in Australia. Opportunities to strengthen communication with potential job seekers at a school level were identified, as well as the need for greater government support programs.

The strategy

The key outcome achieved through this project is the Nursery Industry Career Path Development Strategy.

The longer-term outcomes anticipated through the project will be reflected in the industry adoption of the strategy to support better career development in the nursery industry. This include investment in the implementation of the five key strategies and associated actions to support the industry as an attractive career option, have available effective education and training opportunities, provide a good employment environment and be recognised as an employer of choice.

The strategy is based on a five- pronged approach requiring a coordinated, systematic approach to address the skills and employment issue. The five areas of the strategy are illustrated below. A copy of the strategy provided in Appendix 2.



Extension

Industry webinar

The live webinar on the 14 April 2019 engaged 14 viewers in a forum where they heard about the key project outcomes and could seek clarification of any of the key findings.

A link to the webinar is here: <https://www.youtube.com/watch?v=nAoklzUJmK4>

A copy of the webinar presentation is provided in Appendix 3.

Industry communications

The Cox Inall had not finalised the brief article and video case study on the key findings and the strategy for key industry publications at the time this report was prepared.

Outputs

Outputs produced through the project include:

- Desktop review (see Appendix 1)
- Key informant interviews x 22 (target was 15)
- Online industry survey (29 responses)
- Industry consultation workshop (14 participants)
- Presentation to Nursery Industry Strategic Investment Advisory Panel, Sydney
- Nursery Industry Career Path Development Strategy document (see Appendix 2)
- Nursery Industry webinar of project key findings to 14 viewers – available here: <https://www.youtube.com/watch?v=nAoklzUJmK4>
- Nursery Industry webinar presentation (see Appendix 3)
- Industry updates via “Your Levy @ Work” e-newsletter

Monitoring and evaluation

The appropriateness, effectiveness and efficiency of the project methodology has been evaluated through internal monitoring by the project team for the purposes of continuous improvement of RMCG project delivery.

A live evaluation plan was developed based on a MERI framework (Monitoring → Evaluation → Reporting → Improvement) to inform the changing needs of delivery structures and mechanisms.

Specific evaluation questions addressed by the project team have included:

Key evaluation questions		Response
Effectiveness	<i>1. To what extent has the project achieved its expected outcomes?</i>	All intended project outputs were achieved within the project delivery timeframe.
Relevance	<i>2. How relevant was the project to the needs of the intended beneficiaries?</i>	<p>Informal feedback with the Nursery Industry Garden Association throughout the project delivery confirmed the delivery of the project against intended outcomes.</p> <p>A presentation of the project findings to date was made the Nursery SIAP which validated the project activities and progress to that point in time.</p>
Process appropriateness	<i>3. How well have intended beneficiaries been engaged in the project?</i>	Engagement of intended beneficiaries has been strong. This has included geographical representation and business size. Multiple engagement processes were employed to ensure maximum audience capture.
Engagement	<i>4. To what extent were engagement processes appropriate to the target audience/s of the project?</i>	<p>Multiple engagement processes, mediums and promotion channels provided multiple opportunities for beneficiaries to engage with the project.</p> <p>The limitation of one stakeholder consultation workshop in a fixed geographic area could have been improved to encompass other geographic areas.</p>
Efficiency	<i>5. What efforts did the project make to improve efficiency?</i>	<ul style="list-style-type: none"> Timing and location of industry consultation workshop to coincide with industry event (Victoria nursery trials week). Opportunistic stakeholder consultation and key informant interviews as aligned to other project delivery.

Recommendations

A coordinated delivery effort, through multi-stakeholder engagement, is recommended to underpin the implementation of recommended tactics identified in the strategy. The multi-pronged strategic approach, including recommended tactics includes:

Strategy 1: Industry promotion & awareness	
Industry brand promotion	<ul style="list-style-type: none"> ▪ Capitalise on existing industry brands and initiatives for promotion of skilled career opportunities, eg. Vision 2020 initiative, Green Cities Fund. ▪ Promote good news nursery industry stories on positive opportunities and industry future eg. <i>solution to environmental challenges, improved liveability</i>. ▪ Collaboration with other agricultural industry career pathway networks and initiatives, including role of nursery sector within horticulture supply chain. ▪ Celebrate industry successes and achievements, including apprenticeship/traineeship awards. ▪ Provide suitable information about the industry on industry websites.
Active promotion	<ul style="list-style-type: none"> ▪ Showcase skilled career opportunities at high profile industry events, eg. Melbourne International Flower and Garden Show, Local Government sustainability festivals. ▪ Skilled careers promotion toolkit for schools and career guidance councillors inclusive of career case studies, career pathway documents and greenlife resources. ▪ In-school delivery of careers promotion toolkit at targeted priority schools, including nursery business site visits, based on geographic proximity to nursery businesses and training institutions. ▪ Promote career opportunities beyond industry association websites, include skilled career opportunities on agricultural industry career pages eg. Rural Skills Australia, MyCareer, Harvest Trail.
Passive industry promotion	<ul style="list-style-type: none"> ▪ Increase baseline awareness of nursery industry and skilled career opportunities through: <ul style="list-style-type: none"> – Social media presence, including Instagram and Twitter, eg. modelled on Carpentry Australia #ProudChippy. – Sponsorship of targeted school programs, eg. NGIV Victorian Schools Garden Award. ▪ Online presence of documented careers promotion toolkit information, including support resources for established agricultural skills initiatives, eg. Rural Skills Australia.

Strategy 2: Policy Parameters	
Training support framework	<ul style="list-style-type: none"> Advocate for government incentives and support for priority subsidised training placements in nursery relevant training courses and content. Advocate for apprentice and traineeship position funding to support the development of the nursery sector.
Industry advocacy	<ul style="list-style-type: none"> Promote and advocate the nursery industry economic, social and environmental contribution to commonwealth and state governments and other relevant associations to ensure continuity of support for skills and training initiatives as a foundational issue for the sector.
Migratory worker programs	<ul style="list-style-type: none"> Facilitate support for prioritisation of primary industries in non-priority postcodes (metropolitan areas) to facilitate skilled and non-skilled migratory labour initiatives to address industry skills issue. Promote and share Australian nursery careers toolkit with targeted greenlife skilled international markets and training facilities, including. European and North America markets.

Strategy 3: Training system (formal and informal)	
Training package design and delivery	<ul style="list-style-type: none"> Engage with key training institutions, including tertiary and VET, for industry partnership collaboration on course delivery, course promotion, infrastructure availability, on-site content delivery and course content within and in addition to existing Training Packages. Inform industry skill priorities and needs for training package review through skills impact to ensure targeted course content to meet industry needs. Support informal training initiatives through train the trainer packages for internal training and upskilling, including adult learning principles and a training resources hub on industry websites.
Promotion of training programs	<ul style="list-style-type: none"> Collaborate with training service providers, including tertiary and VET, for the promotion of training programs as linked to career pathways through skilled careers promotion toolkit. Promote formal training opportunities, including tertiary and VET, within the industry amongst nursery businesses. Support, foster and encourage apprenticeship and traineeship programs and placements.

Strategy 3: Training system (formal and informal)	
Leadership and staff development initiatives	<ul style="list-style-type: none"> ▪ Continue support and promote participation in established leadership and development initiatives, eg. Green Industry Growing Leaders Program, Masterclass in Horticultural Business. ▪ Facilitate regional and international study exchange and networking opportunities for peer-to-peer learning. ▪ Promote and support scholarships e.g. Nuffield, Churchill. ▪ Develop internship programs as an introduction to the nursery industry.

Strategy 4: Human resource management practices	
Human resources toolkit	<ul style="list-style-type: none"> ▪ Compile and document information sheets and templates for best practice human resource management to facilitate a consistent baseline of practice across the industry. The toolkit should include information relating to: <ul style="list-style-type: none"> – Recruitment – Induction and probation – Pay rates and award classifications – Performance management – Dismissal and redundancy – Workplace health and safety
Market appreciation	<ul style="list-style-type: none"> ▪ Industry communication activities targeted at facilitating the paradigm shift of industry image as an employer of choice. Content to include assessment of employment market trends, what millennials want and how to engage them, employment and pay conditions.
Employment industry hub	<ul style="list-style-type: none"> ▪ Host employment information and resources on a central web-based employment industry hub with targeted information for employers and employees. ▪ Share and promote employment industry information and resources with education and training providers for collaboration, e.g. Primary Industry Education Foundation Australia.

Strategy 5: Defined jobs and carer pathways	
Dynamic career pathway	<ul style="list-style-type: none"> ▪ Develop a dynamic, non-linear, career pathways for skilled and unskilled staff positions within the nursery industry. ▪ Demonstrate entry and exit opportunities for engagement with the nursery industry across the supply chain. ▪ Share and promote dynamic career pathways through skilled careers promotion toolkit through schools, training providers and other industry stakeholders.
Job roles case studies	<ul style="list-style-type: none"> ▪ Profile and document real world examples of skilled workers across the nursery industry at different career levels and examples. ▪ Promote and share case studies through active and passive industry promotion initiatives, including skilled careers promotion toolkit.
Skilled versus unskilled work	<ul style="list-style-type: none"> ▪ Define skill levels and match relevant training opportunities and levels to career pathways. ▪ Promote skill level and qualification guides through training providers and industry promotion initiatives, including skilled careers promotion toolkit.

Strategy implementation

Funding for the implementation of the strategy should be secured through the nursery research and development levy as a core outcome aligned to the identified industry outcome of *better career development* as per the Nursery Strategic Investment Plan (2017-2021). Other external funding partners may be identified.

The proposed implementation approach includes a dedicated personnel resource to drive the implementation of the strategy, preferably hosted with a peak industry body, or demonstrated partnership linkages.

Oversight of the position should be provided through an industry committee comprising of growers and key industry stakeholders, to ensure the alignment and targeted delivery of activities to meet industry expectations.

Strong partnership development will be required with core delivery partners including education and training providers, service agencies and other industry stakeholders. Discrete project activities may be required to be delivered through contracted service providers with specialist skills to provide the relevant standard of product to the industry.

Initial delivery timeframe should be three years, at which point the strategy and delivery model should be reviewed and refreshed to accommodate changing employment market and training conditions, and consolidate effort and energy based on progress to date.

Refereed scientific publications

None to report

Intellectual property, commercialisation and confidentiality

No IP, commercialisation or confidentiality issues to report.

Acknowledgements

The RMCG team would like to acknowledge the Nursery businesses, advisors, industry associations and training and education stakeholders who contributed their valuable time and expertise to support the development of this strategy.

In particular we would like to thank the collaborative partnership with Peter Vaughan and the Nursery Garden Industry Australia team for their support in the development of this strategy.

Appendices

- Appendix 1: Desktop review
- Appendix 2: Nursery Industry Career Path Development Strategy
- Appendix 3: Webinar Presentation slides

Appendix 1: Desktop review

JANUARY 2019

Nursery industry career pathways

Desktop review

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1 Introduction

1.1 PROBLEM STATEMENT

The nursery industry supply chain is a significant sector of the Australian horticultural industry. It employs almost 27,000 (19,000 full time equivalent) staff in around 1,800 small to medium enterprises (SMEs). The value of production for the year ending June 2016 was \$2.29 billion; encompassing plants grown for horticulture including, fruit and vegetables, landscaping and ornamental retail supply chains as well as forestry. Yet the industry, like many other agricultural and horticultural industries, faces major challenges around high staff turnover and an ability to attract and retain qualified people via offering attractive career pathways.

Industry training and development has been identified as a significant priority of the Australian nursery industry. This is documented in the Nursery Strategic Investment Plan (2017-2021) with better career development, one of the five industry outcomes identified in the SIP. Strategies to achieve required outcomes are identified as:

- Promoting the industry as a professional career choice
- Identifying future skill sets needed in the industry
- Collaborating with institutions about industry training and development needs
- Implementing a young leader and development program
- Using future innovators and young leaders to promote and adopt R&D and marketing outcomes within the industry.

1.2 BACKGROUND

Nursery production occurs in all states and territories of Australia, with the majority of production happening in Victoria, Queensland and New South Wales.

Attracting, retaining and developing a skilled workforce is a pressing challenge for all Australian agricultural and horticultural industries, not just the nursery sector. Several studies (Growcom, 2013; AgriFrood Skills Australia, 2015; RMCG & GVFGSWG, 2013) provide empirical evidence of skills issues and shortages in horticulture, including nursery production in Australia. The collective findings of these studies identify several driving issues contributing to the availability of skilled workers in horticulture, including:

- Low number of people attaining specific agriculture and horticulture qualifications
- Availability of training courses / services that are relevant, accessible in production regions, and cater for people in the workforce
- Labour competition from other sectors, including mining and coal seam gas
- Poor promotion of the industry as an employer of choice, including lack of clear career pathways within the industry
- Poor promotion of horticulture to people trained in relevant related disciplines such as logistics, business management, IT, engineering
- Small to medium enterprises cannot afford to employ several specialists; they require multi-skilled staff in management positions

- Seasonal and casual/part time nature of the work, inhibiting job security, on-the-job training and career progression as well as potentially requiring long working hours during the peak season
- Lack of regional level collaboration to build skilled and adaptive labour pools
- Industry image, employment conditions including remuneration and skilled supervision, work place conditions
- Remote locations affecting the ability of partners of those employed to find adequate work, quality of infrastructure (e.g. schools, childcare, hospitals, transport)
- The predominant disinterest of local unskilled labour to work in horticulture, and
- Reluctance by the local industry to engage skilled migrant labour or participate in seasonal worker programs due to factors including costs, the length of time seasonal workers may stay, facilities they have to provide for them, language and cultural barriers, and minimum work hour requirements.

1.3 OBJECTIVE OF THIS STUDY

This desktop review seeks to identify the necessary skills for nursery production in Australia, identify the skills shortage and establish an understanding of the inhibiting factors to attract, retain and develop an appropriately skilled workforce for the current and future needs of the industry. The desktop review aims to assess the characteristics of the Australian nursery industry, identify the universal challenge of a skills shortage in horticulture in Australia and address key review questions as outlined in Table 1-1.

Table 1-1: Desktop review questions

THEME	REVIEW QUESTION
Skills	<ul style="list-style-type: none"> ▪ What are the skill needs of the Australian nursery industry? ▪ What are the position and role types in the nursery industry and how do they form a career path (identify stepping stones)? ▪ What are the skill gaps?
Training	<ul style="list-style-type: none"> ▪ What are the sources of skilled/trained staff for the nursery industry? ▪ Who is providing these skills / training? ▪ What relevant courses (tertiary and VET*) are offered in: <ul style="list-style-type: none"> – Nursery / Amenity horticulture? – Production horticulture? – Agriculture? ▪ What are the enrolment and graduate trends? ▪ Are the training services offered meeting the needs of the nursery industry in relevance, ease of access, responsiveness, flexibility and capacity/skills/knowledge of trainers? ▪ What is required to include relevant training skill sets in VET training packages? ▪ What is required to provide training services that build on VET training (professional development)?
Attraction, retention & development	<ul style="list-style-type: none"> ▪ What are the current attraction, development and retention initiatives of the nursery industry? ▪ What are the comparative attraction, development and retention initiatives of other agricultural industries? ▪ Are there shared lessons / experiences from other industries that should be considered by the nursery industry?

2 Industry characteristics

The Australian nursery industry is a multi-billion-dollar sector that plays a vital part in the human, environmental and economic well-being of Australia. The diversity, uniqueness and significance of the sector, however, make it challenging to adopt a one size fits all model to attract, develop and retain a workforce.

The industry provides the plants that underpin two key areas of horticulture:

Urban and Environmental:

- Residential, commercial, industrial and public gardens, green space and developments
- Environmental and ecological restoration for land management, revegetation, natural area rehabilitation and erosion control
- Cut flower production

Rural and Agriculture:

- Production horticulture for fruit, nut and vegetable production
- Forestry spanning large scale plantations to agro-forestry
- Livestock production properties for forage and animal welfare management
- Medicinal, herbal and remedial products

2.1 INDUSTRY STATISTICS

In 2015-2016, Australia's nursery businesses produced \$2.29 billion of green life from the sale of 1.6 billion plants. There are around 1,800 production nursery businesses that employ almost 27,000 full and part-time and casual employees. The plants were produced across a variety of regions and environments with outdoor production and indoor production totalling 6,229 ha and 1,273 ha respectively.

The production nursery industry businesses cover the length and breadth of Australia and no two businesses are the same. On average, businesses nationally employ 15-16 people but this ranges from single operator organisations to those with more than 200 employees.

Business diversity in the Nursery Industry is vast with more than half of businesses considered 'micro businesses' with turnover of \$500K or less. Twenty seven (27%) of the industry has a turnover of between \$500,001 - \$2M and 10% of growers are turning over greater than \$3.5m.

Businesses nationally report that operating costs as an average percent of turnover are 28% and wages are 32%.

2.2 INDUSTRY WORKFORCE DEMOGRAPHICS

The key demographics of the current industry workforce, as provided by the NGIA (2018), are outlined as follows.

Gender split

- 72% male
- 28% female

Workforce age

The average age of a person working in the Nursery Industry is 54 years old.

- 15% - 18-39 years
- 49% - 40-59 years
- 36% - 60 and older

Employment type

27,000 people (or 19,000FTE) are employed by the Nursery Industry on a full time, part time and casual basis

- 50% - Full time
- 17% - Part time
- 32% - Casual/Seasonal roles

Employment role

- 78% - Nursery labouring
- 13% - Administrative
- 9% - Other

Location

83% of the Nursery Industry operates from the eastern states of Australia.

- 29% - Queensland
- 28% - Victoria
- 26% - New South Wales/ACT
- 8% - Western Australia
- 9% - South Australia, Tasmania, Northern Territory

3 Skills shortage in horticulture

3.1 THE NEED FOR SKILLS IN HORTICULTURE

Over the past decade, horticulture, the third largest agriculture sector in Australia behind livestock and grains, has moved beyond a 'market garden' mentality, to focus on business acumen including supply chain management, technology, product innovation and export competitiveness (RMCG, 2015). Pratley (2012) presents an argument that horticultural operations of today operate at levels of complexity that did not exist 20 years ago. Horticultural businesses are faced with a range of compliance responsibilities in the areas of biosecurity, workplace health and safety, pesticide management, food safety, customer relationships (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.

More than just plant production and horticultural skills are required for the nursery industry in Australia. However, small to medium enterprises cannot afford to employ several specialists; subsequently they require multi-skilled staff in management positions. Additionally, business principles require greater attention through regular business activities including an increasing need for data capture and management for compliance and business efficiency. Marketing is increasingly becoming the responsibility of the business for products and processes including quality assurance, accreditation, logistics and supply chain relationships. To remain viable, horticulture businesses have to be technologically adept and remain 'cutting edge' e.g. with automotive processes across the production system, a plethora of precision agriculture application as well as data monitoring and management systems.

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 (Pratley, 2012). There is also a need to secure a continued 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; this is forecast to cost the Australian horticulture industry \$1.55 billion in lost profit by 2020 (Horticulture Australia Ltd, 2008).

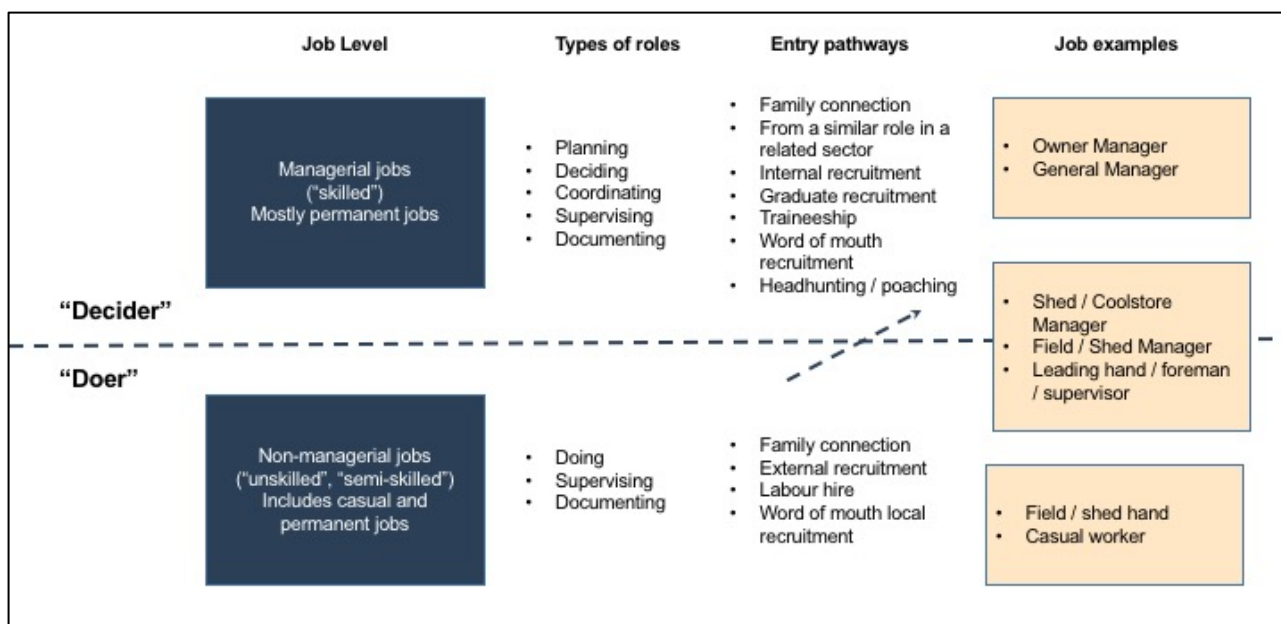
3.2 JOB LEVELS IN HORTICULTURE

A study by Santhanam-Martin and Cowan (2017) into skilled workforce issues provides a two-tier classification of job levels within the horticulture sector in Australia. This includes jobs which involve independent decision-making as managerial jobs ('deciders'), and jobs which are mostly about carrying out instructions provided by others as non-managerial jobs ('doers').

The classification of jobs as either a decider or a doer means different skill sets are necessary to perform tasks. Deciders are engaged in managerial jobs that rely on strategic thinking, risk management and business planning skills, combined with a sound technical knowledge to make decisions. While doer workers need to demonstrate competence in listening, understanding and completing required tasks; have the capacity to identify urgent problems or risks associated with tasks; and the ability to communicate and supervise other staff in implementing day-to-day tasks combined with the required technical knowledge. The level of technical knowledge required varies for both groups, depending on the level of responsibility and complexity of tasks.

This classification refers to employees, and their required skill set, as either being a decider or a doer as summarised in Figure 3-1.

Figure 3-1: Classification of horticulture job level (Adapted from Santhanam-Martin and Cowan, 2017)



3.3 CURRENT SKILL SHORTAGES IN HORTICULTURE

The range of tasks and skill requirements for both decider and doer jobs within horticulture businesses is diverse. A comparative study of the Australian vegetable industry, undertaken by RMCG (2015) identified gaps in skills as well as gaps in education and training offered to vegetable producers. The summary is presented in Table 3-1. With no equivalent study for the nursery industry identified, many of the issues identified for the vegetable industry are also representative of the amenity horticulture sector. It is important to note that the identified skills gap, as perceived by the industry, is actually a skills shortage or a shortage in the delivery of these skills.

Table 3-1: Identified horticulture industry skill shortages (RMCG, 2015)

KNOWLEDGE AND SKILL AREA	SKILL GAPS
Technology	Information technology, machinery & equipment, precision horticulture, spatial technology, remote sensing, GPS/GIS, vision/sensing technology (e.g. for grading or in the field), robotics, irrigation technology, spray application technology, waste management, energy efficiency
Production environment	Climate/climate change, landscape / land capability / site selection, natural resource management / sustainability, water resources / quality, resource use efficiency, emission management, carbon farming, environmental sustainability, site selection
Field production and advanced crop management	Soil management, crop nutrition / fertilisers, plant health and crop protection, machinery & equipment, irrigation management, integrated crop management, agronomy, sustainable production, variety selection, on-farm research methods (farm trials)
Protected Production/Hydroponics	Structures/crop covers, hydroponics, greenhouse soil / substrate management, nutrition management / fertilisers, plant health and crop protection, climate and atmosphere control, machinery & equipment, irrigation management, integrated crop management
Postharvest Management	Grading, cool chain management, post-harvest physiology, packaging, storage, temperature and atmosphere control, logistics, transport/shipping, distribution, food safety, waste management
Managing the Business	Strategy, financial management, business planning/management, cost of production, record keeping, investment decisions, commercialisation, managing growth, compliance (legislative / regulatory), quality systems, managing risks
Products to markets	Understanding markets and consumers, marketing / promotion / selling, exporting, product development, supply chain management, product development
People	Leadership & management, conflict management / negotiation, WH&S / OH&S, managing staff, mentoring, people development, managing apprentices, labour management, communication
Information transfer	Adult learning, consulting, extension methodologies, facilitation, communication e.g. via public media, public speaking

3.4 SKILLS GAP OUTLOOK

In addition to existing skills shortages within the production horticulture sector, several emerging issues have been identified that may challenge future skills and skill development in horticulture. An assessment by the Australian Industry Skills Council (2016), identified several drivers and potential future skill gaps as relevant to horticulture as summarised in Table 3-2.

Table 3-2: Skills Outlook (Australian Industry Skills Council, 2016)

DRIVER	SKILLS OUTLOOK
Transition to ongoing implementation of new processes and technologies in irrigation.	Skills required around various types of irrigation such as pressurized irrigation operations and gravity fed irrigation systems.
The National Agvet Chemical Task Force working group harmonisation to chemical training requirements, including a review of state based regulatory frameworks and future developments in managing spray drift risks.	Skills required in the industry are required to reflect the recommendations of the Task Force.
Transition to new technology and processes used in conservation and land management.	New knowledge and operational capacity to optimize technology.
Recent deaths on Quadbikes has led to concern over the safety of operation. New Machinery may be used instead of quads (drones).	Concern regarding the level of skills of quadbike operators. New and emerging skills will be required for the use of new technology such as drones.
Over reliance on chemicals to manage pests is causing concerns environmentally with increasing resistance to chemicals requiring new variants of chemicals to be developed. A holistic approach of balancing chemical use with a greater use of introducing beneficial insects and use of organic rather than chemical agents will be more environmentally sustainable benefitting the overall ecosystem.	Industry requires skills in botanical knowledge, pruning techniques, grafting techniques, plant identification, pest identification, integrated pest management, and identifying soil/media composition.
Free trade agreements have opened opportunities for market access to Australian farmers.	Skills required in how to export food to emerging markets and global logistics.
Investment in integrated technology, such as robotics and digital and wireless technology to monitor farm operations and detect crop issues.	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.
Increasing market demand for innovation in product development to ensure viability of enterprises.	New knowledge and operational capacity related to innovation and product development.
Growing investment in integrated farm technology, quality standards and data analysis are expected to influence the roles of farmers. Continuous development of biotechnology with new discoveries providing the potential to support farmers with emerging challenges, including those arising from climate change, pressure on global food supplies and fresh water, and the management of pests and diseases, will add to the vocational outcomes of agricultural work sector.	In response to climate change and government policy, knowledge of relevant science, digital and analytical skills, assessing crop health, data capture from a range of devices, and strategic planning and business management.

4 Skills

4.1 SKILLS SHORTAGE IN AGRICULTURE

Detailed studies assessing industry specific skill shortages are limited, and where available, are based on high level, cross industry aggregated datasets. Despite this, there is a rhetoric around the factors that are seen to contribute to skill shortages, particularly in regional Australia, which include structural changes to the economy, ageing workforce, environmental factors including prolonged drought, labour competition from other industries, migration of workers from regional areas to metropolitan centres and suitability of regional infrastructure. The availability of regional infrastructure is particularly important to ensure an adequate level of facilities to attract and retain a skilled workforce, and may consider services including schools/education, hospitals and health services, telecommunications, transport, council services, housing, after hours/holiday activities and shopping. The perceived poor image of agricultural industries also plays an important role.

"I have to say that industry works very hard on not portraying a very attractive profile, to be frank, so it is somewhat understandable that careers advisers perhaps are not breaking their necks to recommend careers in agriculture and horticulture to young people when the industry itself says the things about itself that it does. That needs to be corrected, and some of us are working on that at the moment." - Cornish, 2007

The impact of skill shortages has been widely identified, including lower levels of production, higher production costs and loss of competitiveness, and in turn lower opportunities for economic growth.

There is broad recognition for government intervention to address the risks associated with skills shortages through a variety of measures. These include improving and increasing vocational training and targeted training initiatives to meet the need of horticultural businesses, skill immigration programs, and the employment of skilled workers on temporary work visas. In addition to direct programs to support skills development, there is also recognition of the need for indirect support to attract skilled workers to regional areas, through developing and upgrading regional infrastructure and services to meet workforce needs. The National Farmers Federation (2013) for instance, argues that better access to health, education, transport and telecommunications infrastructure will help retain and attract skills to regional areas.

There is recognition of the national barriers to meeting industry needs for labour and skills include low levels of industry involvement in formal education and training, poor promotion of agricultural pathways and the limited capacity of the current education and training system to deliver relevant and innovative training solutions (Industries Development Committee Workforce, 2009).

4.2 SKILL NEEDS OF THE NURSERY INDUSTRY

An assessment of common positions in the nursery industry was undertaken in regard to the technical (hard) and interpersonal (soft) skill needs as presented in Table 4-1. Relevant qualification levels are also identified (Industry Training Australia, 2018).

Table 4-1: Career pathways for the nursery (production and retail) industry (Industry Training Australia, 2018)

POSITION	SKILLS (HARD)	SKILLS (SOFT)	QUALIFICATIONS
Production Nursery Assistant	<ul style="list-style-type: none"> ▪ Application of chemicals under supervision ▪ Operation of large machinery ▪ Undertake various nursery propagation activities ▪ Plant identification 	<ul style="list-style-type: none"> ▪ Communication skills ▪ Ability to work in a range of environments ▪ Punctuality 	Certificate II in Production Nursery
Nursery Sales Assistant	<ul style="list-style-type: none"> ▪ Maintain health of nursery stock ▪ Plant identification ▪ Assist with sales tasks ▪ Manage finances 	<ul style="list-style-type: none"> ▪ Strong work ethic ▪ Ability to accept feedback ▪ Work effectively in a team environment ▪ Reliable 	Certificate II in Retail Nursery
Production Nursery Tradesperson	<ul style="list-style-type: none"> ▪ Conduct a range of tasks relating to safe storage and transportation, preparation, and application of chemicals ▪ Identify and control pests, weeds, and diseases ▪ Construct and maintain irrigation systems ▪ Understand a range of issues relating to plant health 	<ul style="list-style-type: none"> ▪ Strong work ethic ▪ Critical thinking ▪ Experience dealing with a range of different personalities 	Certificate III in Production Nursery
Retail Nursery Tradesperson	<ul style="list-style-type: none"> ▪ Engage with customers on a daily basis ▪ Maintain health of nursery stock ▪ Have an in-depth knowledge of various plants and their growing conditions ▪ Identify and control pests, weeds, and diseases 	<ul style="list-style-type: none"> ▪ Team building ▪ Decision-making skills ▪ Interpersonal skills ▪ Enthusiastic 	Certificate III in Retail Nursery
Production Nursery Supervisor	<ul style="list-style-type: none"> ▪ Supervise nursery production teams ▪ Develop a range of soil and plant health monitoring plans. ▪ Supervise and monitor the performance of employees ▪ Effectively communicate and interact with employees and customers ▪ Implement and maintain work place health and safety programs 	<ul style="list-style-type: none"> ▪ Highly organised ▪ Strong work ethic ▪ Critical thinking ▪ Logical thinking ▪ Problem solving 	Certificate IV in Production Nursery
Retail Nursery Supervisor	<ul style="list-style-type: none"> ▪ Supervise nursery logistics ▪ Manage an effective work team ▪ Supervise and monitor the performance of employees ▪ Effectively communicate and interact with employees and customers 	<ul style="list-style-type: none"> ▪ Resourceful ▪ Willing to learn ▪ Cooperative 	Certificate IV in Retail Nursery

Production Nursery Manager	<ul style="list-style-type: none"> ▪ Effectively coordinate and complete production tasks that will increase the productivity of the business ▪ Apply extensive knowledge of plant taxonomy to business operations ▪ Implement a range of plant, water and nutrient management plans ▪ Lead and manage a production team in an effective manner ▪ Management of machinery and equipment 	<ul style="list-style-type: none"> ▪ Sufficient verbal and written communication skills ▪ Make deadlines ▪ Business etiquette ▪ Decision making ▪ Dispute resolution 	Diploma of Production Nursery
Garden Centre Manager	<ul style="list-style-type: none"> ▪ Manage finances and nursery logistics in a safe and profitable manner to increase the profitability and sustainability of the business ▪ Understand the fundamentals of business management ▪ Apply extensive knowledge of plant taxonomy to business operations ▪ Manage employees in an effective manner ▪ Monitor and manage store facilities 	<ul style="list-style-type: none"> ▪ Conflict management ▪ Leadership ▪ Ability to deal with difficult managerial situations 	Diploma of Retail Nursery Management
Horticulture Business Manager	<ul style="list-style-type: none"> ▪ Analyse and develop business management plans ▪ Manage human resources ▪ Analyse and manage a range of tasks relating to business performance ▪ Implement planning and budget monitoring programs to effectively sell stock 	Logical thinking	Advanced Diploma of Horticulture Bachelor of Horticulture Master of Urban Horticulture

5 Training

5.1 EDUCATION AND TRAINING PROVIDERS

The current Australian institutional and organisational structures supporting education and training in agriculture include state and federal departments of agriculture and natural resource management, private extension providers, private agricultural businesses, vocational education and training (VET) providers, the national training authority, state training authorities, industry training advisory bodies, research and development corporations, universities, farmer organisations, and other non-government organisations (RTOs and non-registered organisations). Increasingly, online training services are offered for agricultural audiences. These online providers may not always be Australian based.

Most formal education and training providers are government (plus fee) funded on a 'throughput of students' basis; there are no rewards attached to outcomes on farms or impacts on profitability of the industries serviced. Some VET providers work closely with industry e.g. with an industry controlling content and, to a degree, delivery mechanisms (e.g. the cotton or dairy industry). This provides a closer link between industry needs and training services.

5.2 NURSERY TRAINING (PRODUCTION AND RETAIL)

There are currently two streams of nursery courses offered, Retail Nursery and Production Nursery, with qualifications ranging from Certificate II to Diploma level (Commonwealth Department of Education and Training, 2018) as outlined in Table 5-1. The design and structure of the training programs are conducive to providing clear career pathways for potential students and a comprehensive skill development framework.

There are currently limitations on the offering of these courses in Australia. As outlined in Table 5-2, offered courses include one grafting course, six Certificate III in Retail Nursery, five Certificate III in Production Nursery, and one Diploma in Retail Nursery. There were also no courses offered in Queensland Western Australia, South Australia, or Tasmania.

Table 5-1: Available VET Courses (ACH10 Package) in retail and production nursery in Australia

CODE	TITLE
AHC20816	Certificate II in Retail Nursery
AHC20716	Certificate II in Production Nursery
AHC31216	Certificate III in Retail Nursery
AHC31116	Certificate III in Production Nursery
AHC40716	Certificate IV in Retail Nursery
AHC40616	Certificate IV in Production Nursery
AHC50916	Diploma of Retail Nursery Management
AHC50816	Diploma of Production Nursery Management

Table 5-2: Registered VET institutions to deliver nursery courses (production and retail)

COURSE	CODE	INSTITUTION
Certificate II in Production Nursery	AHC20716	<ul style="list-style-type: none"> Australian College of Agriculture & Horticulture FITEC Australia Horticultural Training Pty Ltd Kangan Institute Riverina institute of TAFE TAFE NSW
Certificate III in Production Nursery	AHC31116	<ul style="list-style-type: none"> Gordon TAFE South Melbourne TAFE Sunraysia Institute of TAFE Swinburne University of Technology Melbourne Polytechnic South West TAFE Advance Community College Australian College of Agriculture & Horticulture Australian Consolidated Training Bendigo TAFE Kangan Institute
Certificate IV in Production Nursery	AHC40616	<ul style="list-style-type: none"> Australian College of Agriculture & Horticulture Horticultural training Pty Ltd TAFE NSW
Diploma of Production Nursery Management	AHC50816	<ul style="list-style-type: none"> Australian College of Agriculture & Horticulture Horticultural Training Pty Ltd
Certificate II in Retail Nursery	AHC20816	<ul style="list-style-type: none"> Kangan Institute TAFE NSW - North Sydney TAFE NSW - Western Sydney
Certificate III in Retail Nursery	AHC31216	<ul style="list-style-type: none"> Gordon Institute of TAFE Swinburne University of Technology Holmesglen Institute of TAFE Melbourne Polytechnic Bendigo TAFE Kangan Institute Horticultural training Pty Ltd TAFE NSW - North Sydney TAFE NSW – Hunter
Certificate IV in Retail Nursery	AHC40716	<ul style="list-style-type: none"> Horticultural Training Pty Ltd
Diploma of Retail Nursery Management	AHC50916	<ul style="list-style-type: none"> Horticultural training Pty Ltd

5.3 TERTIARY QUALIFICATIONS

Several targeted tertiary qualifications streams are offered through a number of institutions, relevant to nursery industry skill requirements. These institutions and degrees are outlined in Table 5-3.

Table 5-3: Available nursery relevant tertiary qualifications

INSTITUTION	DEGREE
Charles Sturt University	▪ Bachelor of Horticulture
University of Melbourne	▪ Master of Urban Horticulture
University of Queensland	▪ Bachelor of Applied Science (Urban Horticulture of Horticulture major)
University of New England	▪ Bachelor of Agriculture (Plant Production major)
University of Sydney	▪ Bachelor of Science in Agriculture (Plant Production specialisation)
Western Sydney University	▪ Bachelor of Sustainable Agriculture and Food Security
University of Tasmania	▪ Bachelor of Agricultural Science (Horticulture major)

5.4 ENROLMENT AND GRADUATE TRENDS

There has been a national trend of declining enrolment and graduation in higher education qualifications across all of agriculture, including amenity horticulture at both a TAFE and university level in recent years. An example, of the low enrolment pattern trends have been observed with the Bachelor of Horticulture undergraduate degree, offered through Charles Sturt University. Enrolment and graduations by year, data provided by CSU (2017) presented in Table 5-4, highlight a pattern of consistently low enrolment (a minimum enrolment of 25 students is required for a course to be considered viable). The even lower graduation numbers are attributed to agricultural courses having a low minimum academic entry level requirement, and students using agricultural courses as an enrolment gateway to changes courses at a later date.

Table 5-4: Enrolment and graduates in CSU Bachelor of Horticulture (CSU, 2017)

YEAR	2010	2011	2012	2013	2014	2015	2016	2017
Commencing enrolments by year	?	?	14	15	25	23	21	9
Graduated students	1	4	3	3	2	0	2	?

The graph illustrated in Figure 5-1 provides a summary of graduate data for all tertiary institutions offering a horticulture qualification. This trend is cause for alarm, as not only do declining graduations affect the availability of skilled workers (less than 40 graduates in 2015), it also affects viability of training providers to continue to provide relevant training with many of these institutions no longer offering horticulture courses (Pratley, 2017).

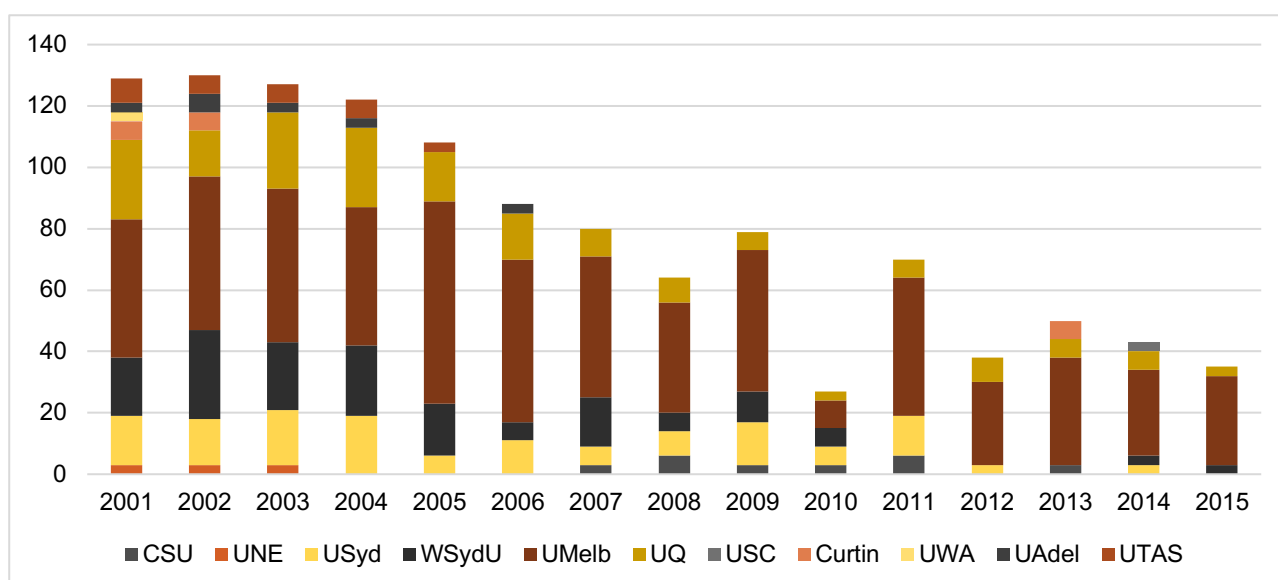


Figure 5-1: Horticulture graduates by university, 2001 - 2015

A similar trend is observed in the VET sector. Table 5-6 outlines student enrolments in the Agriculture, Horticulture and Conservation Land Management Training package (AHC) in 2012, separated by level of qualification¹. The enrolment numbers presented highlight horticulture is in a competitive training market, attracting only 10 per cent of students in an already diminishing market of agricultural studies. Participation rates in the lower certificate levels are also greater, causing concern about the extent and capacity of skills developed in horticulture through the level of training delivered. It is understood this trend has continued in subsequent years, which contributes to many courses not being offered and restricting the actual availability of training.

Table 5-6: Total AHC10 Student and Course Commencements, 2012 (NEST, 2014)

SECTOR	CERT 1.	CERT 2.	CERT 3.	CERT 4.	DIP.	ADV DIP	TOTAL
Agriculture	0	4,343	2,579	831	435	35	8,223
Production Horticulture	0	142	623	505	59	0	1,329
Agriculture services	881	1,143	1,018	197	0	0	3,239
Total Agriculture	881	5,628	4,220	1,533	494	35	12,791
	7%	44%	33%	12%	4%	0.27%	Rounded

Within the horticulture category, there are some positive trends for the nursery and garden industry sector, however, with students favouring enrolment in amenity horticulture courses over production horticulture. The relative completions of amenity and production horticulture between 2012 and 2016 is outlined in Figure 5-2. This graph clearly shows a stronger performance for amenity horticulture courses over production horticulture.

The skills shortage in the nursery industry is exacerbated by the fact that nursery qualifications are unfavourable amongst students, with some nursery qualifications being the least popular qualifications in both 2015 and 2016 (Skills Impact, 2018). Similarly, included in the array of horticultural/agricultural TAFE

¹ Note National Centre for Vocational Education Research (NCVER) data has not been included as the agriculture category includes environmental and other related studies as well as land management including RTD,RTE,RTF,RUA,AGF,AGR

qualifications with no enrolments in 2016 were several nursery qualifications. There are a number of industry priority skills that are outlined for the horticultural/agricultural fields for 2018-2021², aimed to enhance the sustainability of the industry. One of those being improving the skills in integrated pest management, growing media and environmental control in production nurseries. The driver for this is due to the fact that current qualifications have a high reliance on chemicals for controlling pests, weeds, and diseases.

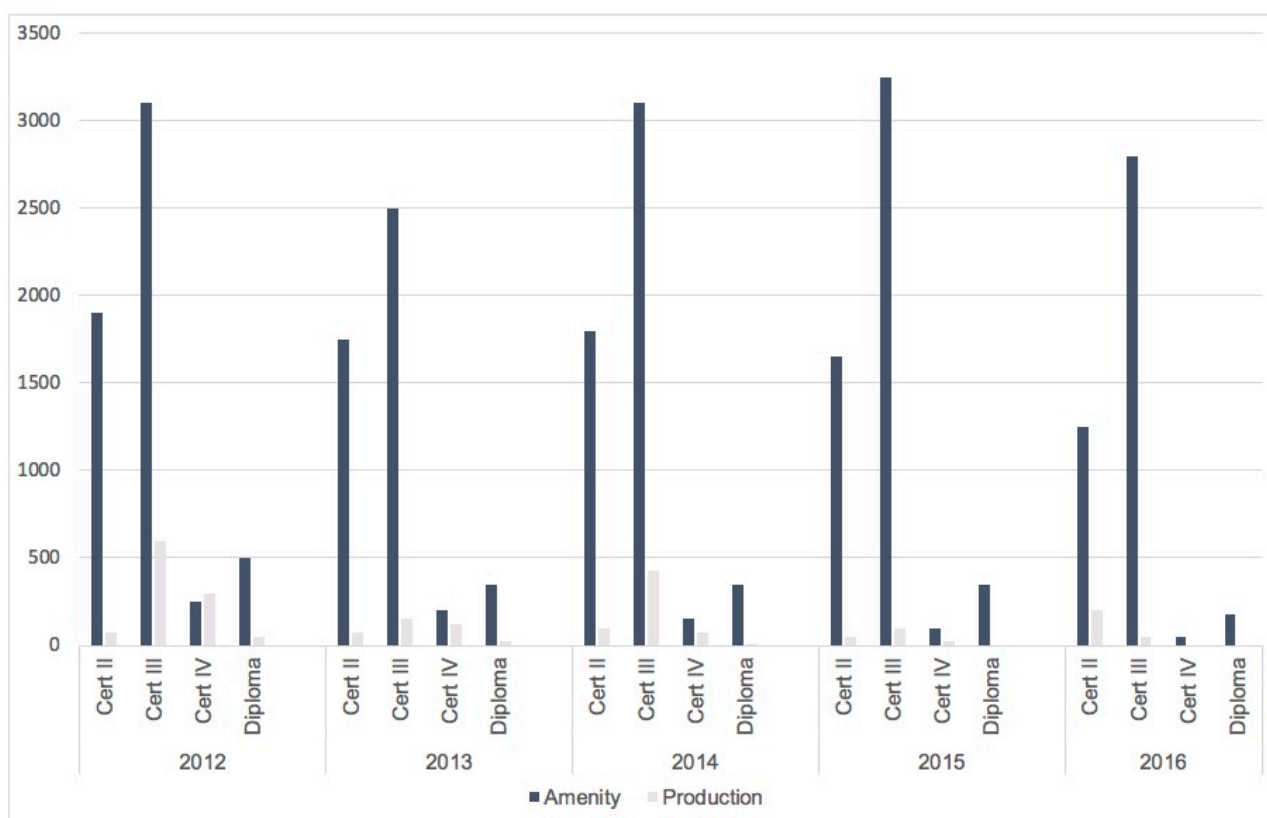


Figure 5-2: Relative completions in amenity and production horticulture 2012 – 2016 (Pratley, 2017)

5.5 EMPLOYMENT PROJECTIONS

Australian census data predicts that the agriculture, horticulture and agricultural product wholesaling industry in Australia employed and approximate 261,000 people in 2016. Of this, 4% were employed in the nursery and floriculture production industry.

Information obtained from the Australian Industry Skills Committee (2018) provides a snapshot on the employment projection for the nursery industry. Figure 5-3 shows the projections for a range of horticultural industries over the next 5 years. The two representing the nursery industry, Nurserypersons and Garden and Nursery Labourers, show insignificant growth over the next 5 years. As illustrated in Table 5-3, this projection is similar to many other horticultural industries in Australia, with the exception of gardeners which has a forecast strong growth projection.

A report completed by Skills Impact (2018) in relation to the skills forecast for the Agriculture, Horticulture and Conservation and Land Management sectors states there is a projected growth of 5.8% in employment in nursery and floriculture production from May 2017 – May 2022. The study also highlights a trend anomaly,

² Skills Impact 2018, IRC Skills Forecast and Proposed Schedule of Work 2018-2021 for the Agriculture, Horticulture and Conservation and Land Management Industry Sector

with employment levels of gardeners, nursery labourers, and nursery persons being less in 2016 than in 2006 indicating a decline in employment numbers.

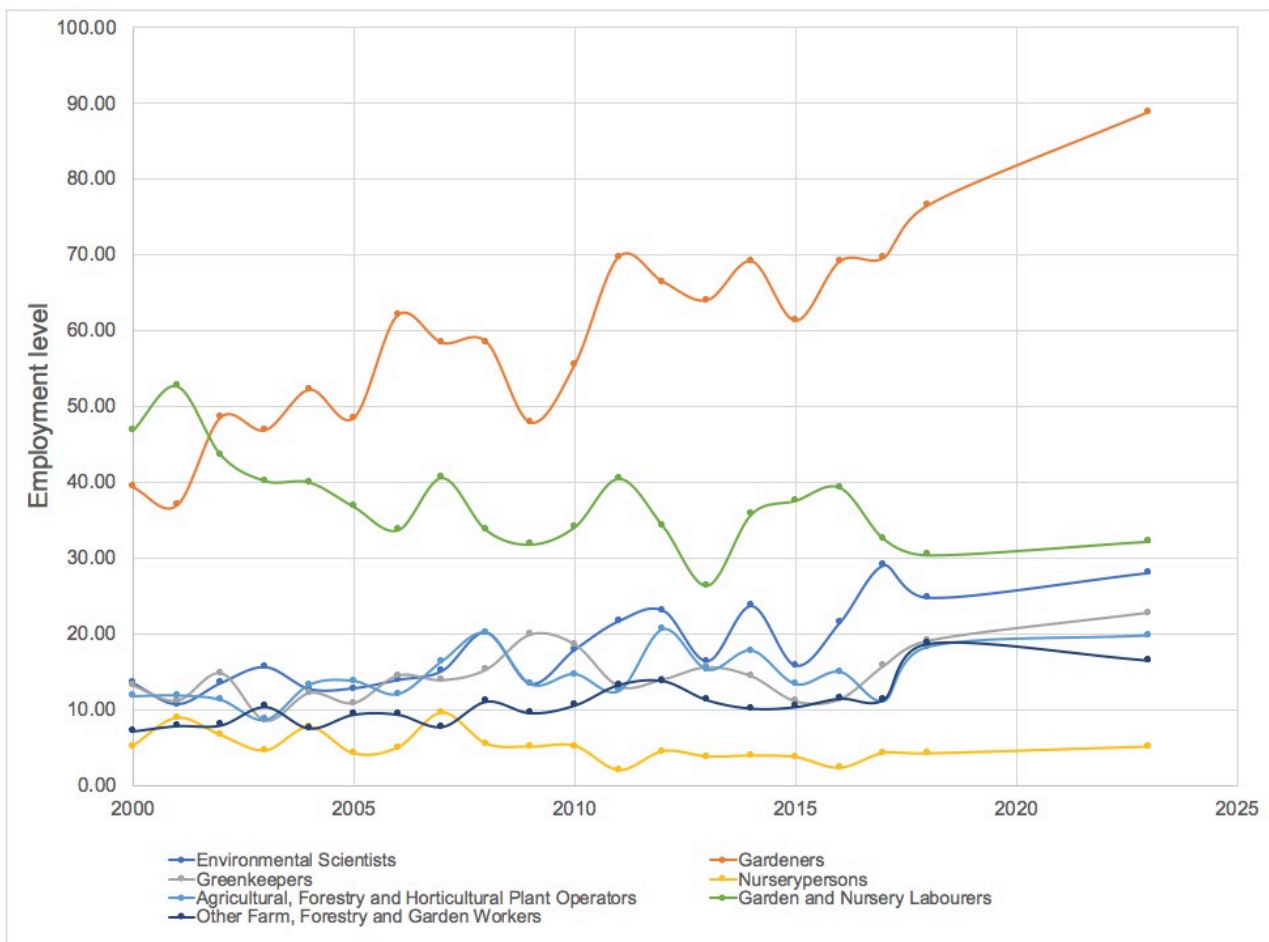


Figure 5-3: Nursery sector employment level and projection (Skills Impact, 2018)

5.6 INTERNAL UPSKILLING AND RECRUITMENT PRACTICES

There is evidence of mixed practice across horticulture industries in Australia with respect to workforce upskilling. A report by Macquarie Franklin (2012) in the Australian vegetable industry concluded that growers tend to have “apathy” to training their workers, and in most cases, only participate for financial, market or legislative imperatives. Despite the negative connotations regarding apathy, this approach would appear to suggest a high level of value is attributed by employers to the development of business relevant skills (RMCG, 2015).

This approach is reflected in an observed preference to build the skills of existing staff to enable internal recruitment for increasingly skilled positions. Internal skill development is seen to value the understanding of existing employees have of the business, and how particular tasks are approached. A study by Santhanam-Martin and Cowan (2017) observed internal recruitment as a risk management strategy to ensure the appropriateness of candidates to business culture. Where new or additional skills were required that had to be sourced externally, businesses tended to assess potential candidates based on industry experience, and recommendations for others in the industry, rather than their formal qualifications.

5.7 CAREER PATHWAYS

Many horticultural employers prefer to recruit internally, due to the importance that they place on business specific knowledge. Internal promotion also allows managers to 'hand pick' candidates who have shown motivation and aptitude in their prior position.

However, most businesses rely on both external and internal recruitment when a position becomes vacant or the business grows. External recruitment is more common in 'doer' jobs, such as crop husbandry, picking and packing, due to the unskilled to semi-skilled nature of the positions. As these jobs usually offer only seasonal work, they are often filled by migratory workers who are recruited through external labour hire companies. 'Decider' jobs are often filled using internal recruitment, however, roles such as farm, business, personnel, compliance, marketing or logistics managers, will be recruited externally, especially in larger businesses.

Often, throughout a worker's career, there is potential for them to move between jobs, such as field work and packing shed work, or 'up the career ladder', as employees are internally recruited from "doer" to 'decider' roles or between 'decider' roles. This shows that there is an opportunity for career progression and career pathways in horticultural careers.

Several examples of career pathways have been prepared for the nursery sector by training providers to outline career progression based on qualification attainment. Examples of this are provided for production nursery (Figure 5-4) and retail nursery (Figure 5-5). However, these career pathways imply that there are easy pathways to move from one sector to another. In reality this is not always the case, for example working in the turf industry is quite different to nursery production.

This highlights the importance and role of industry in the development and involvement throughout the career pathway to ensure understanding of industry requirements and that the skills gained are those that best suit the industry.

Figure 5-4: Career pathway for production nursery (Melbourne Polytechnic)

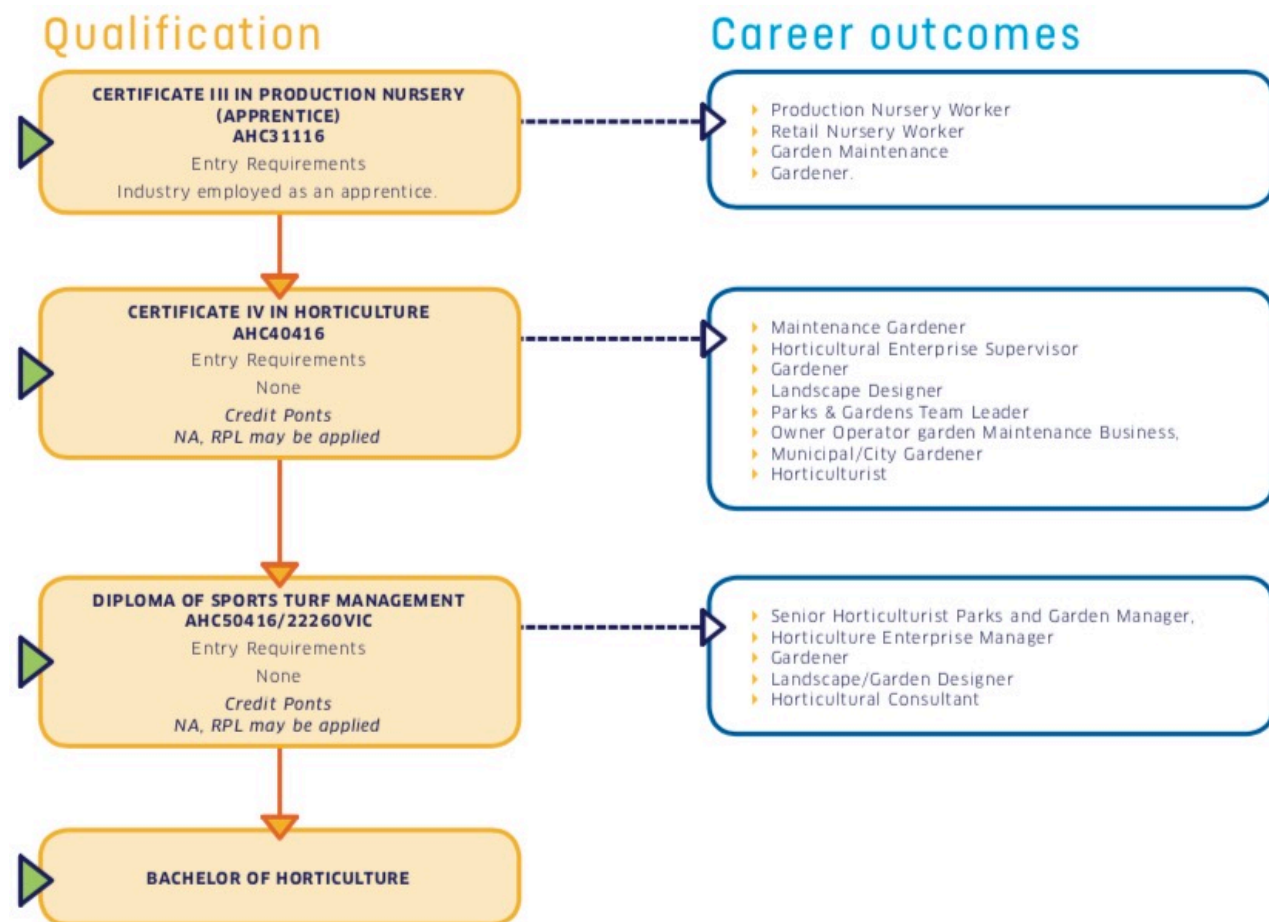
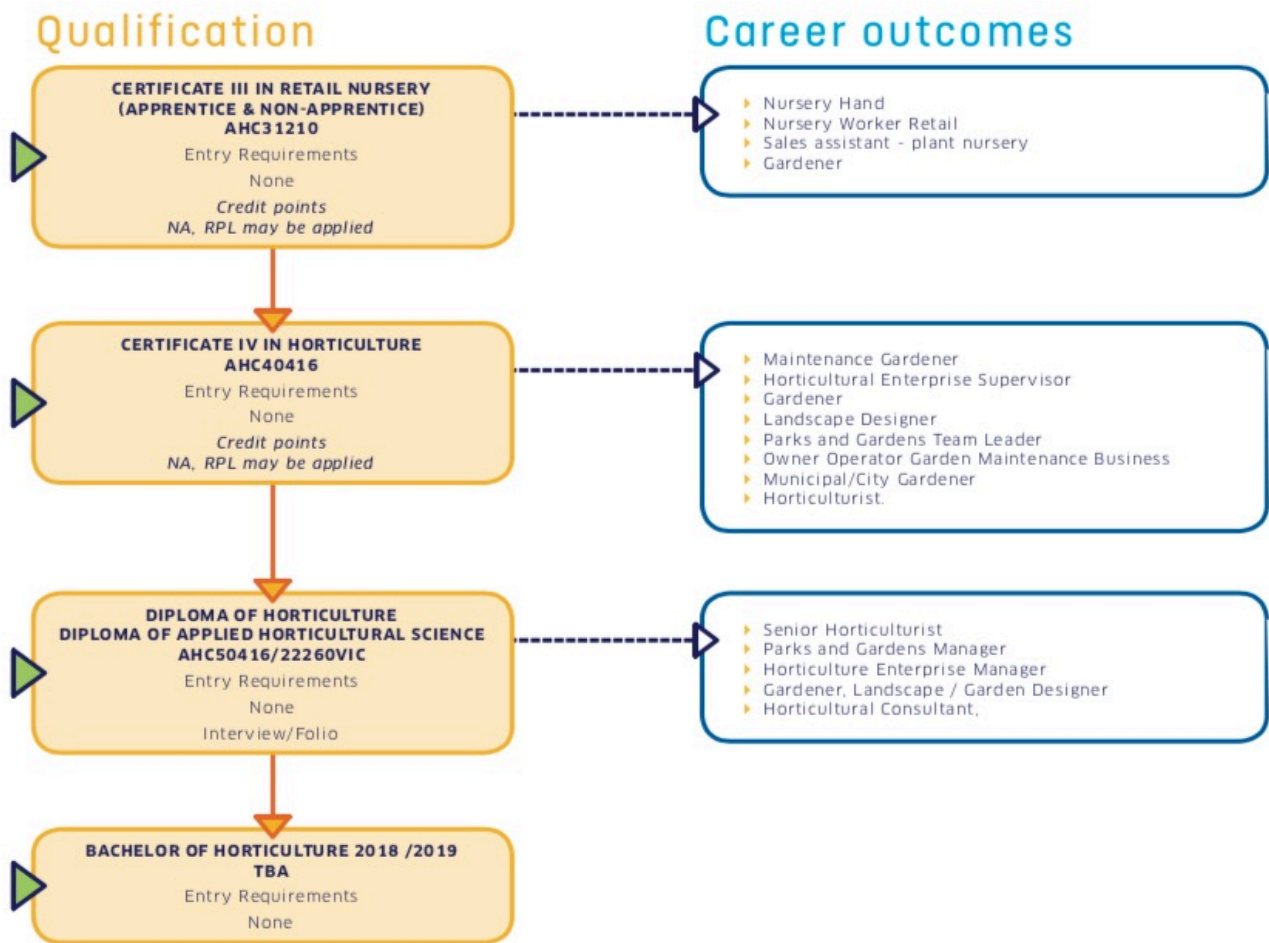


Figure 5-5: Career pathway for retail nursery (Melbourne Polytechnic)



6 Attraction, retention and development

6.1 EXISTING INITIATIVES

There are several existing Hort Innovation projects funded, including contributions from the nursery industry development fund, to support the attraction, retention and development of the nursery industry workforce. These projects are strategically aligned to support and build on outcome 5 of the Nursery Strategic Investment Plan 2017-2021 – *better career development*. The projects are summarised and include:

- Green Industry Growing Leaders Program (MT16002)
- Global Master Class (LP15001)
- Attracting new entrants into Australian Horticulture (LP15006)
- Advancing women's leadership across the Australian horticultural sector (LP16000)
- Engaging leaders in the Australian horticulture industry (LP16001)

GREEN INDUSTRY GROWING LEADERS PROGRAM (MT16002)

This project intends to enhance the skills and knowledge of leaders and aspiring leaders enabling them to better manage teams and ensure their business stays at the forefront of the growing nursery industry. Conducted over 3 phases, involving leadership forum meetings and workplace projects, the program aims to provide tools and skills to people in the nursery industry to develop the capacity to lead a team. These include:

- Establish focussed goals
- Understand your behavioural drivers
- Develop 'metrics that matter'
- Learn to 'give up' the unnecessary
- Learn to pace any change program realistically
- Develop and progress using The Right Mind 'Buddy Concept'

The project is currently being run on a yearly basis and seeks to involve twenty representatives from a range of different nursery backgrounds (Hort Innovation, 2017).

GLOBAL MASTER CLASS (LP15001)

The Masterclass in Horticultural Business has been designed to encourage growers and people involved in the horticultural sector to take their operation and career to the next level. Supported through the Hort Frontiers Leadership fund, the Masterclass focusses on global trends in horticulture, international business, innovation, value chains, governance and risk, to help individuals expand their horizons and be leaders in their fields. The Masterclass has been developed by world leaders in the horticultural industry including: Wageningen University & Research and Lincoln University, and is delivered by the University of Tasmania. Delivered over a ten-month period, the program covers a series of topics including:

- Horticultural Management
- People and Culture
- Supply Chain Management and Logistics

- Financial Management and Law
- Horticultural Marketing and Communication
- Global Trends and International Business
- Innovation and Entrepreneurship
- Business Development and Strategy

The Masterclass is intended to attract a diverse cohort of 30 people, with three individuals from the nursery industry able to achieve a full scholarship for the course (Tasmanian Institute of Agriculture, 2017).

ATTRACTING NEW ENTRANTS INTO AUSTRALIAN HORTICULTURE (LP15006)

This project has been designed to attract final year university students, studying a range of disciplines, to the horticulture sector. Conducted over two phases, the project involves a 10-12 week internship, and 1 year graduate program in a horticulture focussed workplace. In the first phase, the students get real life exposure to the horticulture industry and have the chance to engage with growers, people in the industry, and the greater horticulture supply chain. The second phase allows the graduates to develop their skills and knowledge of horticulture and partake in a 5 day industry leadership program to encourage the development of future leaders. The key objectives of the project are to:

- Increase graduate interest in careers across the Australian horticulture sector.
- Build a new pool of industry leaders and create networks of young professionals to drive further innovation across the sector.

The project is currently being led by agriculture recruitment company, Rimfire Resources, and is designed to use an allocated \$3.9 million to open up the doors of the horticulture industry to university leavers (Hort Innovation, 2017).

ADVANCING WOMEN'S LEADERSHIP ACROSS THE AUSTRALIAN HORTICULTURAL SECTOR (LP16000)

Collaboratively funded through Hort innovation and Woman & Leadership Australia (WLA), the women's leadership development project intends to foster gender progression and equality in the horticulture industry. Focussing on women who are emerging leaders or have mid-level management and leadership experience, this project offers a scholarship that covers almost 60% of the program fee for the following courses:

- Accelerated Leadership Performance Program
- Executive Ready
- Advanced Leadership program

The courses are part-time and delivered both online and face-to-face, they commence several times a year with face-to-face units run in Sydney, Melbourne, Brisbane, and Perth. Each course intends to attract a diversity of woman who possess a wide range of skillsets (Women & Leadership Australia, 2018).

ENGAGING LEADERS IN THE AUSTRALIAN HORTICULTURE INDUSTRY (LP16001)

The Horticulture Alumni project intends to create a community of like-minded industry leaders who collaborate and help progress the horticulture industry. The group consists of a diverse range of people that are involved in a wide range of jobs across the horticulture sector. The project is currently in its infancy but is attracting an

ever-growing number of industry professionals passionate about the future of horticulture (Hort Innovation, 2017).

6.2 EVIDENCE FROM OTHER AGRICULTURAL INDUSTRIES

Other agricultural industries have provided clear pathways for individuals entering the industry showing how they are able to progress and develop. This includes information on why the industry is important, the extensive opportunities in the industry, as well as information on how to obtain qualifications.

6.2.1 DAIRY AUSTRALIA

Dairy Australia provides one of the better examples of what an industry can achieve to address a skills shortage challenge, and attract interest in a primary industry as a career path through their Stepping Stones program.

The Stepping Stones program provides information on the different types of careers on a dairy farm and explores the different pathways available for people who are either looking to start a career on a dairy farm, or for experienced people who want to progress their dairy career further.

The program provides relatable dairy farmer and staff profiles from around Australia, advice on dairy careers, progression and great career tips from farmers. The Planning Your Dairy Career section is a practical tool that can be used to assess where you are, set your short and long term goals and work out your next steps to achieve them, as illustrated in Figure 6-1.

Dairy Australia also provides a number of accessible resources and events for schools to support awareness of career paths in the industry, including:

- school camps where children can learn hands on about the industry
- webinars
- promotion of the role of women in the industry
- industry events
- hosting the Discover Dairy website (<http://www.dairy.edu.au/DiscoverDairy>)

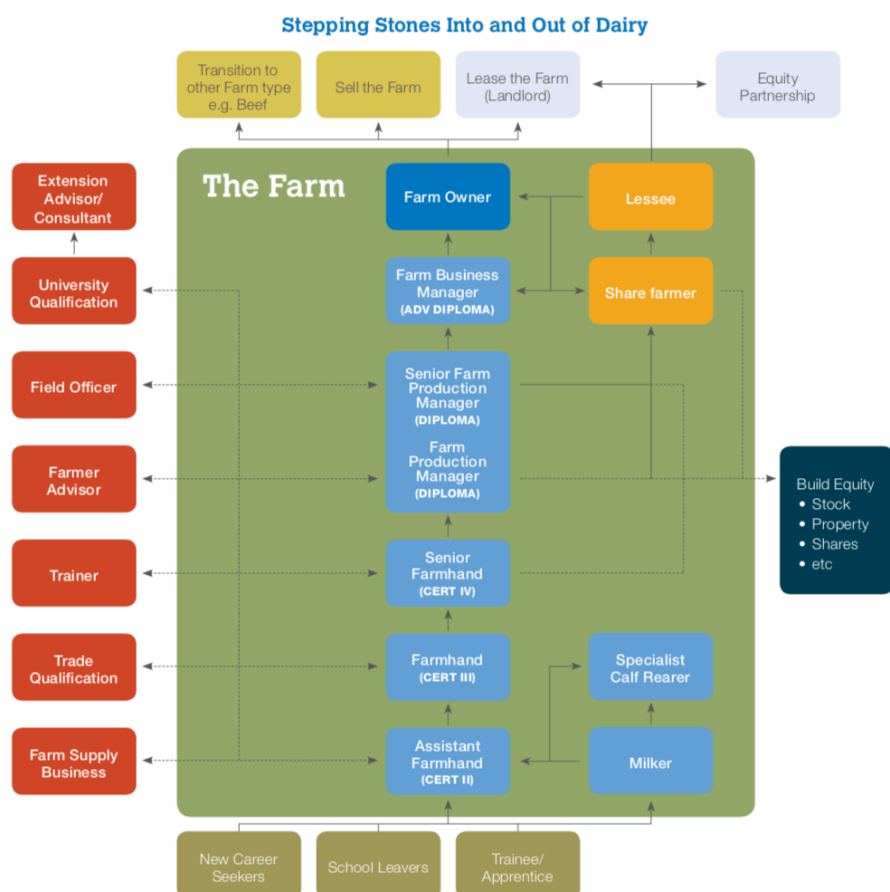


Figure 6-1: Dairy Australia Stepping Stones Program (Dairy Australia, 2017)

6.2.2 COTTON AUSTRALIA

Cotton Australia have a structured program identifying what the possible career opportunities are within the industry. While the career pathways are not well highlighted, the program does provide a range of resources for schools and those interested in entering the industry with excursions, tours and camps to promote the opportunities available in the industry and provides a clear direction on where industry specific training is available

The cotton industry also have a program called Cotton Gap, which is a unique opportunity for cotton growers to reach keen operational staff who have just finished school and are interested in either a long-term career in cotton or 12 months employment in the form of a 'gap year'.

The Cotton Gap program (<https://cottonaustralia.com.au/work-in-cotton/cotton-careers>) provides the opportunity to work in unique rural and remote regions of Australia in mixed and varied farming enterprises. The program is promoted to potential applicants by highlighting the benefits to:

- Learn new skills
- Form new friendships
- Experience living in rural and regional Australia
- Build savings
- Undergo training to set you up for further work opportunities

- Create a network in the industry to help pursue a career in agriculture
- Participate with your friends
- Work in an exciting and innovative industry
- Gain practical experience on farm
- Build character
- Get involved in the local community and sport

6.2.3 OTHER INDUSTRY EXAMPLES

INDUSTRY	SUMMARY	LINK
Grains	<p>The grains industry in the eastern states of Australia doesn't have a clear pathway for career progression. The Grains Research and Development Corporation (GRDC) provides a brief snapshot on the careers that are potentially available, but no information on career progression or pathways.</p> <p>The Western Australian program, Careers in Grain, provides a comprehensive overview of the various career opportunities in the grains industry, and some simplified linear career pathways of how to get to a desired job.</p>	http://careersingrain.org.au/opportunities/career-pathways
Forestry	For Education and Engagement, the Forestry Industry is a good example of what can be achieved with resources for early years right through to university, as well as an international program. They have a great newsletter keeping people informed of what the industry is doing and what resources are available. They also offer camps and programs to attract students to the industry.	http://www.forest-education.com/our-programs/exploring-career-pathways/
Horticulture	Rural skills Australia, although not an individual industry does explain career pathways across the agricultural sector in general and for specific industries, however the pathways are not clear and the information provided for each industry is more statistical than engaging for potential industry workers.	http://www.ruralskills.com.au/
	The Queensland Agriculture Workforce Network (QAWN) provides information on the various job streams in horticulture more broadly and information on what's involved the various horticultural careers.	https://www.growcom.com.au/uploads/QAWN/QAWN-Production-Horticulture-Job-Streams.pdf

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Appendix 2: Nursery Industry Career Path Development Strategy

APRIL 2019

Nursery industry career path development strategy

Industry strategy and action plan

Hort Innovation

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Executive Summary

The nursery industry supply chain is a significant sector of Australian horticultural industries, and includes plants grown for horticulture such as fruit and vegetables, landscaping and ornamental retail supply chains, as well as forestry. The sector is valued at more than \$2.4 billion and employs approximately 25,000 people in more than 1,600 small to medium enterprises. Yet the industry, like many other agricultural industries, faces major challenges around high staff turnover and an ability to attract and retain qualified people via offering attractive career pathways.

The industry has a shortage of skilled labour, particularly with respect to supervisory level positions. Remuneration, employment conditions and limited opportunities for career growth and progression are amongst the biggest barriers to attracting and retaining a skilled workforce for the nursery industry. The industry has lost a generation within its workforce, with more than 85% of the current workforce above the age of 40 years. These challenges require immediate actions to secure an immediate, as well as long-term skilled workforce to ensure the continued success of the industry.

This strategy and action plan provide a plan for effective skilled workforce and career path development for the industry in the short to medium term, and longer-term strategies to sustain an interest in working in the industry for the future. The action plan considers the current skilled employment and training situation in the nursery industry and recommends a five-pillar strategy to attract, retain and develop a skilled nursery industry workforce to underpin the economic sustainability and profitability of the sector for the future.

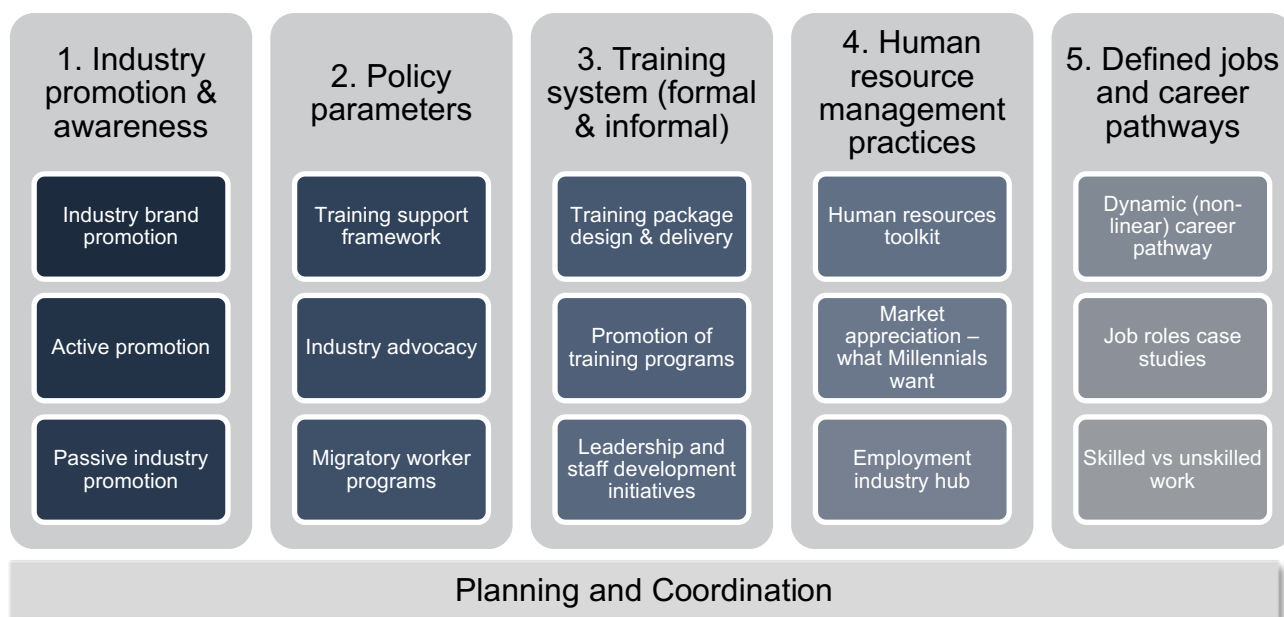


Figure E-6-1: Five-pillar strategy to attract, retain and developed skilled nursery industry workforce

1 Context

The Australian nursery industry is a multi-billion-dollar sector that plays a vital role in the human, environmental and economic well-being of Australia. The diversity, uniqueness and significance of the sector, however, has proved a challenge to adopt a one size fits all model to attract, develop and retain a skilled workforce.

1.1 THE CHALLENGE

Attracting, retaining and developing a skilled workforce is a pressing challenge for all Australian agricultural industries, it is not a unique issue to the nursery sector. Several studies¹ have provided empirical evidence of the compounding issues that are identified to have progressively contributed to the challenge of securing a skilled workforce for agricultural industries, including:

INDUSTRY INHERENT CHALLENGES

- The nursery industry is multifaceted; those not involved in the industry have little understanding of its business structures and activities. It therefore is an 'unknown entity' on the labour market and for career advisers.
- Poor promotion of the industry as an employer of choice, including lack of clear career pathways within the industry and too frequent presentation of a negative self-image.
- Poor promotion of horticulture and career opportunities to people trained in relevant related disciplines such as logistics, business management, IT, engineering.
- Lack of engagement with the education and training sector and promotion of training.
- Lack of regional level collaboration to build skilled and adaptive labour pools.
- Seasonal and casual/part time nature of the work, inhibiting job security, on-the-job training and career progression as well as potentially requiring long working hours during the peak season.
- Industry image, employment conditions including remuneration and skilled supervision, work place conditions (real or perceived).
- Reluctance by the local industry to engage skilled migrant labour or participate in seasonal worker programs due to factors including costs, the length of time seasonal workers may stay, postcode visa restrictions, facilities they have to provide for them, language and cultural barriers, and minimum work hour requirements.
- Small to medium enterprises cannot afford to employ several specialists; they require multi-skilled staff in supervisor and management positions.

CHALLENGES FROM THE EDUCATION AND TRAINING SECTOR

- Low number of people attaining specific agriculture and horticulture qualifications.
- While nursery training packages have been developed by Skills Impact for delivery by RTOs, the system of funding RTOs does not enable delivery of courses unless a minimum of students apply.
- Availability of training courses / services that are relevant, delivered by knowledgeable teachers/trainers accessible in production regions, and cater for people in the workforce at all levels.
- The training sector does not typically promote courses, relies on industry to market courses.
- Training to develop multiskilled staff, particularly soft skill development, is difficult to find or access.
- Apprentices are difficult to find and or the employer has to deal with multiple organisations before being able to employ an apprentice.

¹ Growcom, 2013; AgriFood Skills Australia, 2015; RMCG & GVFGSWG, 2013

LABOUR MARKET CHALLENGES

- Labour competition from other sectors, including mining and coal seam gas who offer better pay.
- The type of work performed, including manual, repetitive and outdoors.
- Remote locations of some agricultural businesses affecting the ability of partners of those employed to find adequate work, quality of infrastructure in rural areas (e.g. schools, childcare, hospitals, transport).
- The predominant disinterest of local unskilled labour to work in horticulture.

1.2 THE OPPORTUNITY

The Australian nursery industry has recognised that a concerted approach is required to overcome or mitigate the labour challenges. The industry has identified training and development as a significant priority. This is documented in the Nursery Strategic Investment Plan (2017-2021),² with better career development, one of the five industry outcomes identified in the SIP. Identified strategies include:

- Promoting the industry as a professional career choice.
- Identifying future skill sets needed in the industry.
- Collaborating with institutions and other formal and informal training providers about industry training and development needs.
- Consider a 'train the trainer' program to ensure that those who provide training services to the industry have a good understanding of the industry, new technologies and current principles of learning.
- Implementing a young leader and development program.
- Using future innovators and young leaders to promote and adopt R&D and marketing outcomes within the industry.

The development of attractive career paths has been identified as a major opportunity to attract and retain skilled labour.

1.3 STRATEGY AND PLAN

The strategy provides the guiding framework for career path development to support the delivery of the SIP priorities and address the abovementioned challenges. The strategy summaries the extent of the challenges facing the Australian nursery industry to attract, retain and develop a skilled workforce; it provides a clear roadmap for successful career path development in the short to medium term. The strategy should be reviewed and updated every three years to ensure relevancy within the career market.

Actions identified within the plan support the longer-term strategies to sustain a continued interest in workforce development by, and for the Australian nursery industry. The nursery industry will have to identify key measures of success for each strategy action that should be reviewed annually to monitor progress.

² Hort Innovation (2017) Nursery Strategic Investment Plan 2017-2021

2 Nursery industry in Australia

The production and supply chain characteristics of the nursery industry are underpinned by two key areas of the supply of plants for:

Urban and Environmental:

- Residential, commercial, industrial and public gardens, green space and developments
- Environmental and ecological restoration for land management, revegetation, natural area rehabilitation and erosion control
- Cut flower production

Rural and Agriculture:

- Production horticulture for fruit, nut and vegetable production
- Forestry spanning large scale plantations to agro-forestry
- Livestock production properties for forage and animal welfare management
- Medicinal, herbal and remedial products

In 2017-2018, Australia's nursery businesses produced a value of \$2.4 billion worth of green life from the sale of 1.9 billion plants.

There are around 1,650 production nursery businesses that employ almost 25,000 full and part-time and casual employees. The plants are produced across a variety of regions and environments with outdoor production and indoor production totalling 6,229 ha and 1,273 ha respectively.

The production nursery industry businesses cover the length and breadth of Australia, with no two businesses the same. On average, nursery businesses nationally employ 15-16 people, but this ranges from single operator organisations to those with more than 200 employees.

Business diversity in the nursery industry is vast with more than half of businesses considered 'micro businesses' with turnover of less than \$500,000. While 20% of growers are turning over greater than \$2 million per annum.

Businesses nationally report that operating costs as an average percent of turnover are 28% and wages are 38%.

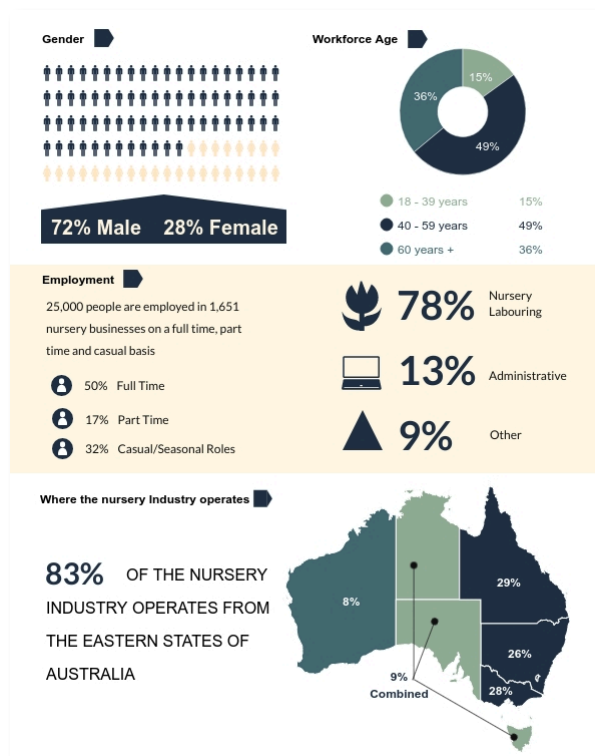


Figure 2-1: Australian nursery sector demographics

3 A skilled nursery workforce

3.1 DEFINING SKILLED EMPLOYEES

An important definition in the context of this strategy is the difference between skilled and semi-skilled employees. A two-tier classification system has been adopted which includes positions that require independent decision-making as skilled jobs ('deciders'), and jobs which are mostly about carrying out instructions provided by others as semi-skilled or non-managerial jobs ('doers').³

The classification of jobs as either a 'decider' or a 'doer' means different skill sets are necessary to perform tasks. Deciders tend to be engaged in managerial positions that rely on strategic thinking, risk management and business planning skills, combined with a sound technical knowledge to make decisions and people management skills to get the job done efficiently. While 'doer' employees need to demonstrate competence in listening, understanding and completing required tasks; have the capacity to identify urgent problems or risks associated with tasks; and the ability to communicate and supervise other staff in implementing day-to-day tasks combined with the required technical knowledge. A classification framework for these job levels is outlined in Figure 3-1.

It is important to note this plan is focussed on the attraction, retention and development of the skilled or decider category of employee. A number of challenges exist for the recruitment of semi-skilled or doer positions, and while the recommendations identified in this strategy would support recruitment strategies for this segment of employee, they are not the primary audience.

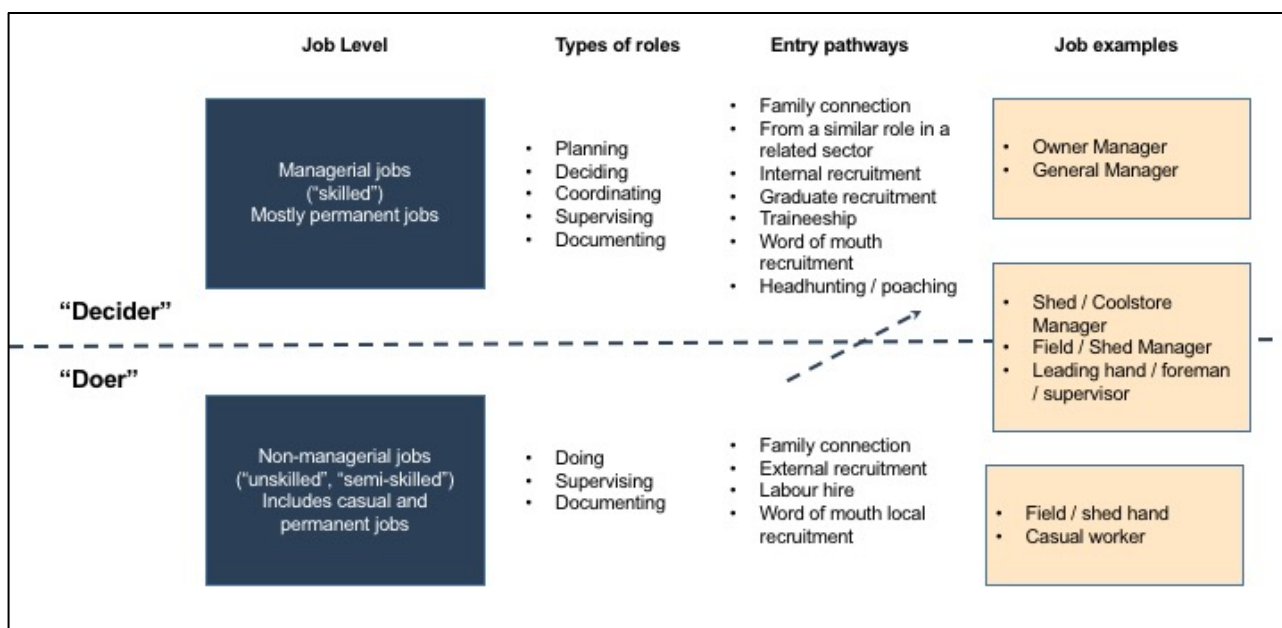


Figure 3-1: Classification of horticulture job level (Adapted from Santhanam-Martin and Cowan, 2017)

³ Santhanam-Martin M and Cowan L (2017) *Understanding Skilled Workforce Issues in the Goulburn Valley Fruit Industry*, University of Melbourne and Agriculture Victoria

3.2 SKILL NEEDS

Over the past decade, horticulture, the third largest agriculture sector in Australia, behind livestock and grains, has moved beyond a 'market garden' mentality, to focus on business acumen including supply chain management, technology, product innovation and export competitiveness. Horticulture businesses of today operate at levels of complexity that did not exist within the industry 20 years ago.⁴ This includes a range of compliance responsibilities in the areas of biosecurity, workplace health and safety, pesticide management, food safety, customer relationships and environmental sustainability.

SKILLS BEYOND JUST PLANT PRODUCTION ARE REQUIRED FOR THE FUTURE OF THE NURSERY INDUSTRY IN AUSTRALIA

A key challenge for the nursery industry is the predominance of small to medium enterprises and their flat business structure; they cannot afford to employ a specialist for each business function. Consequently, multi-skilled staff are required in supervisor and management positions. Additionally, business principles require greater attention as part of regular business activities, due to an increasing need for data capture and management for compliance and business efficiency. Marketing e.g. via electronic media is increasingly becoming a greater responsibility for the business. Business processes, especially quality assurance, accreditation, logistics and supply chain relationships are becoming more complex. To remain viable, nursery businesses must be technologically adept and remain 'cutting edge' with increased automation across the production system, a plethora of precision agriculture applications as well as data monitoring and management systems.

To remain internationally competitive, nursery businesses must be able to attract the best educated and trained people at each level of their workforce pool. Skills beyond just plant production are required for the future of the nursery industry in Australia; business, IT and marketing skills are required. There is a need to secure a continued pipeline of well-trained experts to support the capacity and resilience of the industry into the future.

The Australian nursery sector has a shortage of skilled workers. The full extent of this shortage, with respect to unfilled positions and skill types is undefined. Still, there is industry wide acknowledgement of the challenge faced with the attraction and retention of skilled workers, particularly at a supervisory role level.

Some of the key contributors to this challenge are the ageing industry demographics, with more than 85% of the workforce over the age of 40 years. This significant high percentage of older employees, with very low numbers of young employees, represents a lost generation in the nursery industry workforce.

⁴ Pratley J (2012) The workforce challenge in horticulture, *Agricultural Science*, vol. 4, issue 1, pp 26-29

MORE THAN 85% OF THE WORKFORCE IS OVER THE AGE OF 40 YEARS – THERE IS A LOST GENERATION IN THE WORKFORCE

The current skill gaps identified by the industry are mainly soft skills based, related to people development and staff supervision. Many nursery businesses believe they have the ability to train staff in-house to achieve the required technical competency. Value is placed on access to quality training facilities and study exchange opportunities, largely from a networking and peer learning perspective. Recruitment of potential employees is driven by their willingness and attitude to work as well as previous experience in the industry. Subsequently, a continuing challenge the industry faces is a focus on developing existing or ‘poaching’ staff, rather than external recruitment of employees new to the industry. The lack of focus on technical skills of new employees may lead to the industry missing out on using new technical developments and effective adoption or adaptation of R&D outcomes.

The number one barrier to attracting skilled workers cited by employers is attributed to remuneration and employment conditions. The lack of opportunity for career progression and growth is also considered a major barrier. This lack of opportunities is largely due to the nature of small to medium enterprises that are predominately family owned and operated.

3.3 EDUCATION AND TRAINING SECTOR

There is a national trend of declining enrolment and graduation in higher education qualifications across all of agriculture, including nursery production, at both a vocational and university level.

An example of the extent of the challenge is illustrated in Figure 3-2, which provides a summary of graduate data for all tertiary institutions in Australia offering a horticulture qualification. This downward trend is cause for alarm, as not only do declining graduations affect the availability of skilled workers (less than 40 graduates in 2015), low enrolments also affect the viability of education and training providers. Funding for education and training service depends on enrolment numbers. Low enrolments mean that courses are not viable and delivered, even though the curricular exist in principle. As a result, many of the institutions listed in Figure 3-2 are no longer offering horticulture courses⁵ and relevant teaching staff will have moved on. While there are many institutions and courses offered that have relevancy to the nursery sector, this example of horticulture qualifications highlights the risk to the loss of education and capacity.

⁵ Pratley J (2012) The workforce challenge in horticulture, *Agricultural Science*, vol. 4, issue 1, pp 26-29

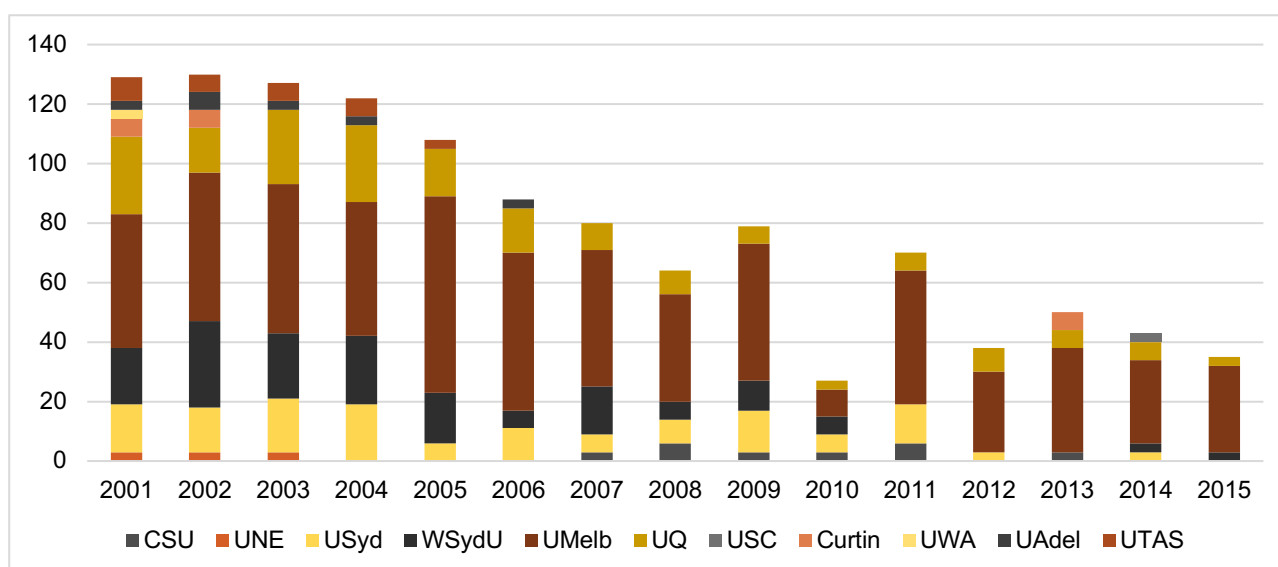


Figure 3-2: Horticulture graduates by university, 2001 – 2015 (Pratley, 2017)

A similar trend to universities is observed in the vocational education training sector. Student enrolments in the Agriculture, Horticulture and Conservation Land Management Training package (AHC10) are weak, which impacts on the ability for many institutions to offer training certificates under the training package and secure teaching staff of capacity to continue to deliver active courses. Again, funding for vocational training is linked to enrolments. Within the horticulture category of the AHC10 package, there are some positive trends for the nursery and garden sector; students are favouring enrolment in amenity horticulture courses over production horticulture. Regardless, nursery qualifications are viewed as being amongst the least popular qualifications with students, with several nursery qualifications often receiving no annual enrolment around Australia.⁶ One of the reasons for the observed decline in enrolments is that providers in the education and training sector do not see it their role to promote training, and the horticultural industry does not actively promote the sector and training opportunities to potential trainees including school-leavers and employment consultants.

NURSERY QUALIFICATIONS ARE VIEWED AS BEING AMONGST THE LEAST POPULAR QUALIFICATIONS WITH STUDENTS, OPPORTUNITIES ARE NOT PROMOTED BY THE TRAINING OR NURSERY SECTOR

3.4 CURRENT INITIATIVES

There are limited examples of coordinated initiatives to attract, retain and develop a skilled workforce within the Australian nursery sector.

⁶ Skills Impact (2018) IRC Skills Forecast and Proposed Schedule of Work 2018-2021 for the Agriculture, Horticulture and Conservation and Land Management Industry Sector

3.4.1 ATTRACTION

Industry awareness and promotion programs are limited, contained to school-based initiatives aimed at raising the profile of gardening in schools, but not of commercial production. These include the Nursery & Garden Industry Australia (NGIA) nationally based KidsGrow program, and state by state initiatives such as the Victorian Schools Garden Award, administered through the Nursery and Garden Industry of Victoria (NGIV). Some individual businesses have trialled school-based apprenticeship and/or work placements programs, but participation is infrequent due to low level interest and participation.

A number of national programs administered through Hort Innovation, including graduate programs through Rimfire Resources, are designed to attract and develop a new cohort of horticulture workers.

Various approaches are taken to advertising of vacant job positions in the nursery industry. However, skilled people outside of the nursery industry looking for career opportunities (e.g. in IT, accounting, engineering, mechanics, logistics) are unlikely to access the information, which is designed for nursery industry members rather than to inform the public about the industry and attract employees. Even if people not familiar with the industry would look at adverts, they could not find information about the industry that would attract them to apply. Careers in the industry are promoted as *an integral part of creating healthier urban landscapes, from large public spaces down to the suburban backyard, balcony or courtyard*. Entry point opportunities are unclear and career development opportunities are inferred only. Websites like 'My Career' or 'Rural Skills Australia'⁷ do not demonstrate the opportunities the nursery industry has to offer for skilled positions.

3.4.2 RETENTION

Employment in the nursery industry offers strengths with year-round workforce demand and favourable geographic locations in close proximity to metropolitan areas, compared to other horticultural industries.

Prospects for employees to stay in nursery businesses are restricted by a lack of career opportunities due to the high proportion of small to medium enterprise employers. Other aspects affecting retention are limited people management skills in the sector; competition from higher paying lower skill sectors, and work conditions including the potential repetitive nature of jobs, environmental factors and physical demands.

Perceptions of the industry are seen to be key barriers to attracting and retaining staff, including an industry images of only attracting '*the workforce reject pool*', being perceived as a 'feminine' trade (in comparison to other trades), and low remuneration. The average income of semi-skilled nursery workers is \$864 per week (lower than all jobs average of \$1,230) as illustrated in Figure 3-3. While this is an indicator of remuneration for unskilled labour, it perpetuates a negative image inhibiting attraction and retention of all staff. Despite this, there is recognition across the industry that while earnings tend to be lower at entry levels, they can quickly increase in line with on-the-job experience, however this is poorly promoted.⁸

Another key source of negative perceptions associated with the industry are employers' poor promotion of the industry. Many are lacking a positive outlook for the industry as an employer of choice or fail to provide development opportunities or working conditions comparable to other trades.

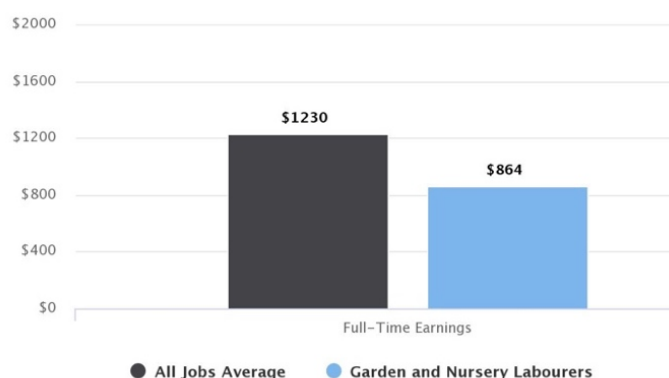


Figure 3-3: Nursery industry weekly earnings
(Source Australian Government, 2019)

⁷ <http://www.ruralcareers.net.au/nursery-and-gardens/>

⁸ Australian Government (2019) Jobs Outlook, Garden and Nursery Labourers

3.4.3 DEVELOPMENT

The limited availability, capacity and quality of education training courses as well as available, well trained teaching/training staff provide limited scope for immediate skills development by established training institutions. Of the institutes that do currently offer nursery relevant qualifications, accessibility for potential students is noted as an inhibitor. Frequently only one institute is situated in a city, for example TAFE New South Wales in Richmond is the only institution offering relevant courses for nursery businesses based in the Greater Sydney region.

A number of national programs administered through Hort Innovation, including the Green Industry Growing Leaders Program, are designed to support the development of the skilled industry workforce.

Many nursery businesses value the importance of upskilling and training; they support this for reasons beyond just the technical content of the training. The value of supporting staff through additional training is seen as an important strategy to provide acknowledgement of skills, even though training certificates are not the most important aspect employers in the industry are looking for; they value experience and personal attributes. The interaction and knowledge exchange with peers during training, conferences and/or study tours are valued by industry because they provide great networking value. Specific technical training is often delivered in-house in the belief that this protects commercial competitive advantages.

4 Nursery skilled workforce strategy

The workforce skill shortage within the Australian nursery industry requires a multifaceted systematic approach and commitment to address the issue. No ‘silver bullet’ option is available; a planned, coordinated strategy to tackle the issue from multiple perspectives is needed. An interconnected five-pillar framework has been developed for this strategy to attract, retain and develop a skilled workforce for the nursery industry, as outlined in Figure 4-1. The five-pillar strategy requires coordinated attention to all of its strategic aspects. Strategies and identified tactics comprise:

1. **Industry promotion and awareness** including active and passive promotion strategies, positive messaging and capitalising on existing industry brands;
2. **Policy parameters** to advocate and promote the value of the nursery sector for government support;
3. **Training system (formal and informal)** to support the targeted design and delivery of training programs that support the upskilling of the nursery industry at several levels;
4. **Human resource management practices** support to ensure adequate employment standards across the nursery industry; and
5. **Defined jobs and career pathways** to demonstrate dynamic career opportunities within the nursery sector to those in horticulture and other relevant sectors.

Implementation of these pillar strategies needs a foundation of a collaborative and coordinated approach across all of industry. A key initial step in the process is a greater self-appreciation of the comparative strengths of the nursery sector by the sector itself. A major source of a negative image of the nursery industry observed through the development of this strategy was the self-image many in nursery businesses portrayed.

The industry also needs to avoid conventional employment approaches used for the recruitment of unskilled labour in targeting a skilled workforce. While pathways to higher level skilled positions are possible through internal recruitment and promotion strategies, the attraction of skilled new employees to the sector is a priority that underpins the design of the strategy. Suitable, professional recruitment strategies are required.

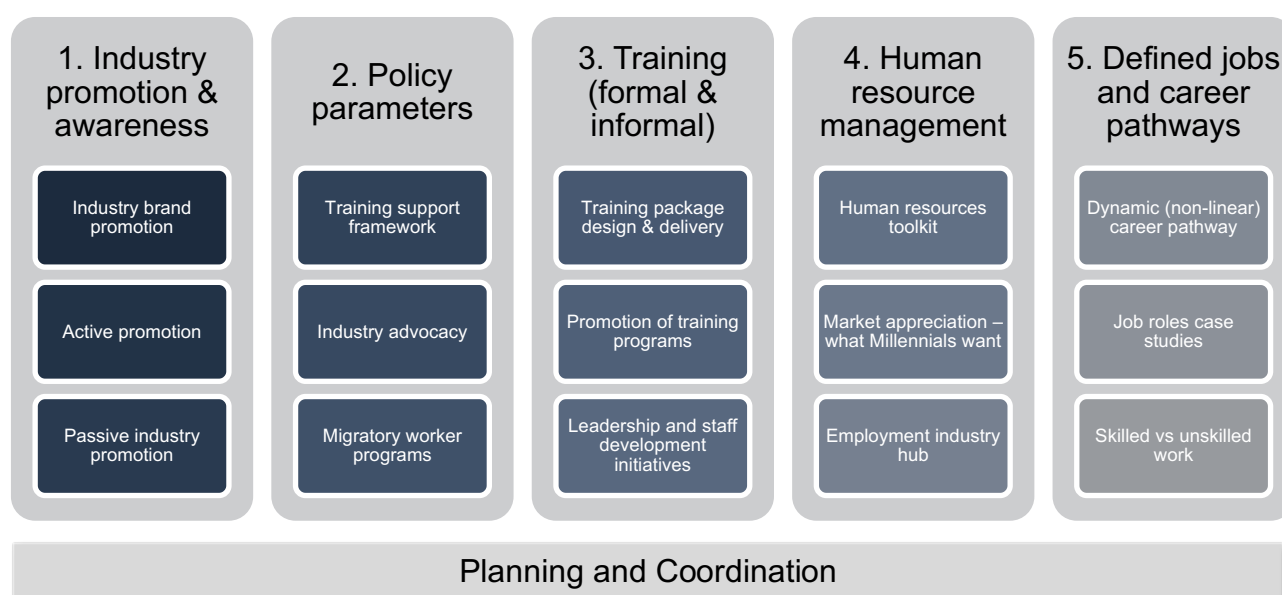


Figure 4-1: Five-pillar strategy to attract, retain and developed skilled nursery industry workforce.

5 Strategies and tactics

STRATEGY 1: INDUSTRY PROMOTION & AWARENESS	
Strategies	Tactics
Industry brand promotion	<ul style="list-style-type: none"> ▪ Capitalise on existing industry brands and initiatives for promotion of skilled career opportunities, e.g. Vision 2020 initiative, Green Cities Fund. ▪ Promote good news nursery industry stories on positive opportunities and industry future e.g. solution to environmental challenges, improved liveability. ▪ Collaboration with other agricultural industry career pathway networks and initiatives, including role of nursery sector within horticulture supply chain. ▪ Celebrate industry successes and achievements, including apprenticeship/traineeship awards. ▪ Provide suitable information about the industry on industry websites.
Active promotion	<ul style="list-style-type: none"> ▪ Showcase skilled career opportunities at high profile industry events, e.g. Melbourne International Flower and Garden Show, Local Government sustainability festivals. ▪ Skilled careers promotion toolkit for schools and career guidance councillors inclusive of career case studies, career pathway documents and greenlife resources. ▪ In-school delivery of careers promotion toolkit at targeted priority schools, including nursery business site visits, based on geographic proximity to nursery businesses and training institutions. ▪ Promote career opportunities beyond industry association websites, include skilled career opportunities on agricultural industry career pages e.g. Rural Skills Australia, MyCareer, Harvest Trail.
Passive industry promotion	<ul style="list-style-type: none"> ▪ Increase baseline awareness of nursery industry and skilled career opportunities through: <ul style="list-style-type: none"> – Social media presence, including Instagram and Twitter, e.g. modelled on Carpentry Australia #ProudChippy. – Sponsorship of targeted school programs, e.g. NGIV Victorian Schools Garden Award. ▪ Online presence of documented careers promotion toolkit information, including support resources for established agricultural skills initiatives, e.g. Rural Skills Australia.

STRATEGY 2: POLICY PARAMETERS	
Strategies	Tactics
Training support framework	<ul style="list-style-type: none"> ▪ Advocate for government incentives and support for priority subsidised training placements in nursery relevant training courses and content. ▪ Advocate for apprentice and traineeship position funding to support the development of the nursery sector.
Industry advocacy	<ul style="list-style-type: none"> ▪ Promote and advocate the nursery industry economic, social and environmental contribution to commonwealth and state governments and other relevant associations to ensure continuity of support for skills and training initiatives as a foundational issue for the sector.
Migratory worker programs	<ul style="list-style-type: none"> ▪ Facilitate support for prioritisation of primary industries in non-priority postcodes (metropolitan areas) to facilitate skilled and non-skilled migratory labour initiatives to address industry skills issue. ▪ Promote and share Australian nursery careers toolkit with targeted greenlife skilled international markets and training facilities, including. European and North America markets.

STRATEGY 3: TRAINING SYSTEM (FORMAL AND INFORMAL)	
Strategies	Tactics
Training package design and delivery	<ul style="list-style-type: none"> Engage with key training institutions, including tertiary and VET, for industry partnership collaboration on course delivery, course promotion, infrastructure availability, on-site content delivery and course content within and in addition to existing Training Packages. Inform industry skill priorities and needs for training package review through Skills Impact to ensure targeted course content to meet industry needs for the future. Support informal training initiatives through train the trainer packages for internal training and upskilling, including adult learning principles and a training resources hub on industry websites.
Promotion of training programs	<ul style="list-style-type: none"> Collaborate with training service providers, including tertiary and VET, for the promotion of training programs as linked to career pathways through skilled careers promotion toolkit. Promote formal training opportunities, including tertiary and VET, within the industry amongst nursery businesses. Support, foster and encourage apprenticeship and traineeship programs and placements.
Leadership and staff development initiatives	<ul style="list-style-type: none"> Continue support and promote participation in established leadership and development initiatives, e.g. Green Industry Growing Leaders Program, Masterclass in Horticultural Business. Facilitate regional and international study exchange and networking opportunities for peer-to-peer learning. Promote and support scholarships e.g. Nuffield, Churchill. Develop internship programs as an introduction to the nursery industry.

STRATEGY 4: HUMAN RESOURCE MANAGEMENT PRACTICES	
Strategies	Tactics
Human resources toolkit	<ul style="list-style-type: none"> Compile and document information sheets and templates for best practice human resource management to facilitate a consistent baseline of practice across the industry. The toolkit should include information relating to: <ul style="list-style-type: none"> Recruitment Induction and probation Pay rates and award classifications Performance management Dismissal and redundancy Workplace health and safety
Market appreciation	<ul style="list-style-type: none"> Industry communication activities targeted at facilitating the paradigm shift of industry image as an employer of choice. Content to include assessment of employment market trends, what millennials want and how to engage them, employment and pay conditions.
Employment industry hub	<ul style="list-style-type: none"> Host employment information and resources on a central web-based employment industry hub with targeted information for employers and employees. Share and promote employment industry information and resources with education and training providers for collaboration, e.g. Primary Industry Education Foundation Australia.

STRATEGY 5: DEFINED JOBS AND CARER PATHWAYS	
Strategies	Recommended actions
Dynamic career pathway	<ul style="list-style-type: none"> ▪ Develop dynamic, non-linear career pathways for skilled and unskilled staff positions within the nursery industry. ▪ Demonstrate entry and exit opportunities for engagement with the nursery industry across the supply chain. ▪ Share and promote dynamic career pathways through skilled careers promotion toolkit through schools, training providers and other industry stakeholders.
Job roles case studies	<ul style="list-style-type: none"> ▪ Profile and document real world examples of skilled workers across the nursery industry at different career levels and examples. ▪ Promote and share case studies through active and passive industry promotion initiatives, including skilled careers promotion toolkit.
Skilled versus unskilled work	<ul style="list-style-type: none"> ▪ Define skill levels and match relevant training opportunities and levels to career pathways. ▪ Promote skill level and qualification guides through training providers and industry promotion initiatives, including skilled careers promotion toolkit.

6 Implementation approach

A coordinated delivery effort, through multi-stakeholder engagement, will underpin the implementation of recommended tactics through this strategy. Each strategy requires the development of an agree action plan including desired outcomes (short, medium, long term) time frames, KPIs and responsibilities.

Funding for the implementation of the strategy should be secured through the nursery research and development levy as a core outcome aligned to the identified industry outcome of *better career development* (Nursery Strategic Investment Plan 2017-2021). Other external funding partners and co-operators may be identified.

The proposed implementation approach, as illustrated in Figure 6-1: Proposed implementation approach, includes a dedicated personnel resource to drive the implementation of the strategy, preferably hosted with a peak industry body, or demonstrated partnership linkages.

Oversight of the position should be provided through an industry committee comprising of growers and key industry stakeholders, to ensure the alignment and targeted delivery of activities to meet industry expectations.

Strong partnership development will be required with core delivery partners including education and training providers, service agencies and other industry stakeholders. Discrete actions may be delivered through contracted service providers with specialist skills to provide the relevant standard of product to the industry.

The initial delivery timeframe should be three years, at which point the strategy and delivery model should be reviewed and refreshed to accommodate achievements and challenges experienced, changing employment market and training conditions, and consolidate effort and energy based on progress.

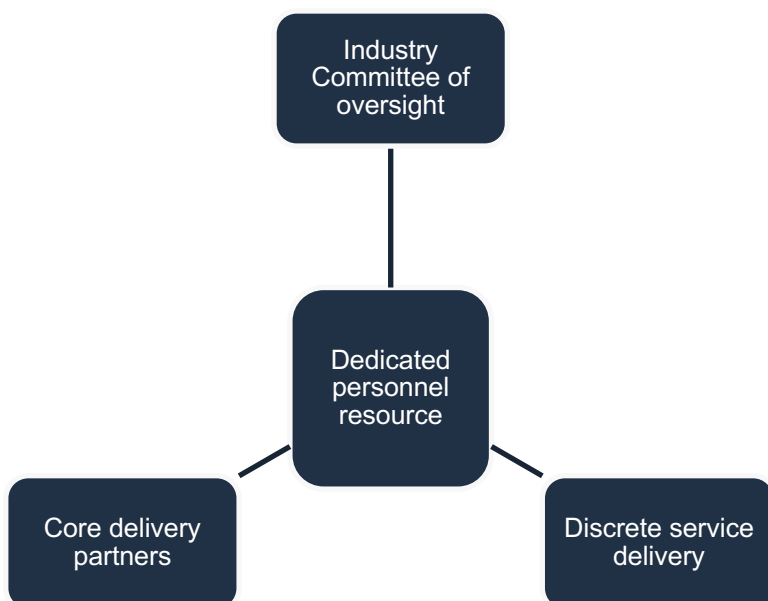


Figure 6-1: Proposed implementation approach

Appendix 1 – Process for developing the strategy

Extensive consultation across the Australian nursery industry has been undertaken in the development of this strategy, including with growers, national and state peak industry bodies, tertiary and vocational education training providers and government agency representatives.

Following a baseline desktop review, the nursery industry was consulted via several platforms including key informant interviews, an online survey and industry consultation workshop and validation through a presentation to the industry Strategic Investment Advisory Panel. The findings from the desktop review and consultation were used to confirm the extent of the challenges the industry faces in the attraction, retention and development of a workforce and informed the development of the strategy and action recommendations.

Key findings from the development of the strategy were presented to all interested stakeholders via a webinar in April 2019.

Data sources and consultation for development of strategy

Desktop review	<p>A desktop review was undertaken to identify the necessary skills for nursery production in Australia, identify the skills shortage and establish an understanding of the inhibiting factors to attract, retain and develop an appropriately skilled workforce for the current and future needs of the industry.</p> <p>The review considered the current characteristics of the Australian nursery sector, what the skill needs and shortages are, participation levels in current training offered, existing initiatives and shared lessons from other agricultural industries. The review confirmed the need for both hard (technical) and soft (people management) skills and identified the emerging challenges within the training sector due to declining enrolments resulting in limited investment in teaching staff and course offerings.</p>
Key informant interviews	<p>Key informant interviews were undertaken with a range of industry stakeholders including growers, national and state peak industry bodies, tertiary and vocational education training providers and government agency representatives. The interviews were undertaken to provide guidance on the needs and expectations of the industry in the development of the strategy, validate key findings that had emerged through the desktop review, collect additional information and test assumptions.</p> <p>A key assumption tested through the interviews was the extent to which the issue related to skilled versus manual labour. The interviews confirmed there was a universal challenge with attracting both skilled and unskilled labour, and interest to address workforce attraction in general. Actual skills required was not the main driver for recruitment strategies, rather attracting potential applicants with the right attitude for the workforce that could be “trained up”. Training options were varied and included on-the-job and study tours favoured over traditional formal courses.</p>

Online industry survey	<p>An online survey was distributed across the industry to provide an additional avenue for industry to provide comment on the study and development of the action plan. A \$200 voucher incentive was provided with the survey to encourage responses, with a total of 29 responses received.</p> <p>Responses were received from a diverse range of business sizes across the nursery supply chain, with most businesses recognizing there is a shortage of skilled labour. Emerging trends noted included the difficulty of recruiting skilled supervisory roles within businesses and a preference for good work ethic and demonstrated past experience. Current skill gaps within businesses were reported on people development skills, rather than technical production skills. A greater emphasis was focused on skills development within a business, rather than seeking external training providers. The biggest barriers seen to attracting skilled workers included remuneration and salary conditions, followed closely by limited opportunities for career growth and progression.</p>
Industry consultation workshop	<p>An industry consultation workshop was held in early December 2018 in Melbourne to coincide with Victorian trials week to ensure the availability of a number of key industry stakeholders during the busy Spring / Summer period. The objective of the workshop was to share and validate the key findings from the desktop review and stakeholder consultation and test the assumptions that emerged during the consultation to define the parameters for the attraction, retention and development of staff in the industry. A total of 14 participants contributed to the workshop discussion.</p> <p>The workshop positively confirmed the findings that had emerged and identified additional challenges of competition from other agricultural sectors and a preference for attitude over education for potential recruits. Questions related to the perception of the industry were identified and the need for the industry to be seen as highly skilled and critical to the future of horticulture production in Australia. Opportunities to strengthen communication with potential job seekers at a school level were identified, as well as the need for greater government support programs.</p>

Appendix 2 – Key stakeholders consulted

A summary of key stakeholders consulted during the key informant interviews and industry workshop is outlined as follows. Additional stakeholders' numbers consulted through other engagement activities included:

- Online industry survey – 29 responses
- Nursery Industry Strategic Investment Advisory Panel presentation – 11 participants
- Strategy findings webinar – 14 participants

Key stakeholders consulted

NAME	ORGANISATION	MECHANISM
Chris O'Conner	Nursery & Garden Industry Association	Key informant interview
Colin Groom	Domus Nursery (WA)	Key informant interview
Craig Taberner	Nursery & Garden Industry Victoria	Key informant interview
David Reid	Nursery & Garden Industry Victoria	Key informant interview & industry consultation workshop
Graeme Smith	Graeme Smith Consulting	Key informant interview
Grant Dalwood	Nursery & Garden Industry South Australia	Key informant interview
Hamish Mitchell	Speciality Trees	Key informant interview
Ian Atkinson	Nursery & Garden Industry Queensland	Key informant interview
James Davies	Chisolm Institute of TAFE	Key informant interview
Jim Johnson	Oasis Horticulture	Industry consultation workshop
Kate Vanson	Skills Impact	Key informant interview & industry consultation workshop
Leigh Siebler	Garden Centres Australia	Key informant interview
Leigh Taig	GoTAFE	Key informant interview
Mark Van der Staay	Westland Nursery (Tas)	Key informant interview
Matthew Lunn	Nursery & Garden Industry Western Australia	Key informant interview & industry consultation workshop
Matthew Mills	Garden City Plastics	Key informant interview
Mike Callaway	Swinburne University	Key informant interview & industry consultation workshop
Page Fleming	Flemings Nursery	Industry consultation workshop
Peter Knox	Alpine Nurseries (NSW)	Key informant interview
Peter Vaughan	Nursery & Garden Industry Association	Key informant interview & industry consultation workshop
Ray Lee	Nursery & Garden Industry New South Wales & ACT	Key informant interview
Robert Percy	Apsley Nursery (QLD)	Key informant interview
Sharon White	Ball Australia	Industry consultation workshop
Sonja Cameron	Cameron's Nursery (NSW)	Key informant interview
Steve Twigg	TGA Australia	Industry consultation workshop
Steven Winter	Boomaroo Nursery	Industry consultation workshop

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Document review and authorisation

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1.0	Draft	08/04/2019	C. Muller	D. Blaesing			P. Vaughan
2.0	Final Draft	24/04/2019	C. Muller				P. Vaughan
3.0	Final	30/04/2019	C. Muller	D. Blaesing	J. Belz	D. Blaesing	Hort Innovation

Appendix 3: Webinar Presentation slides

RMCG



Nursery & Garden Industry
Australia

Attracting, retaining and developing a nursery industry workforce

Key project findings and strategy plan

Industry webinar 17 April, 2019

**Hort
Innovation**
Strategic levy investment

**NURSERY
FUND**



Why is this project important?

- Identified as the key issue for businesses in the nursery industry
- Labour is a vital resource to keep the industry thriving
- More than 85% of workforce is 40 or older
- Approximately 25,000 full, part-time and casual employees
- Look at different approaches to attract, develop and retain staff

How does it align to the Hort Innovation Strategic Investment Plan?

- One of five Outcomes is Better Career Development
- First project commissioned to address this outcome
- Confirmation of the challenges and opportunities
- Development of the strategy
- Next stages – strategy to Hort Innovation for review and implementation

What is the problem?

Attracting, retaining and developing a skilled workforce is a challenge to horticultural industries Australia wide

- Low attainment of agriculture and horticulture qualifications
- Labour competition (mining and coal seam gas)
- Poor promotion of the industry
- Small to medium enterprises need multi-disciplined managers
- Seasonal and casual nature of the work
- Industry image, employment conditions (incl. remuneration)

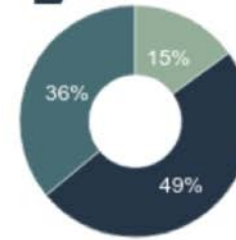
So what?

Gender



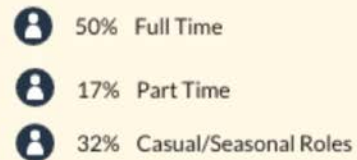
72% Male 28% Female

Workforce Age



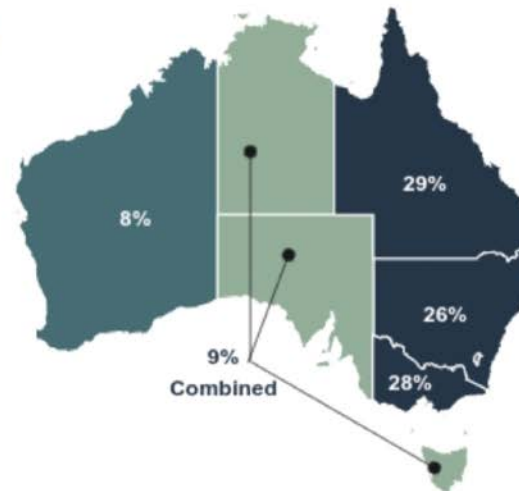
Employment

27,000 people (or 19,000FTE) are employed by the Nursery Industry on a full time, part time and casual basis



Where the nursery industry operates

83% OF THE NURSERY INDUSTRY OPERATES FROM THE EASTERN STATES OF AUSTRALIA



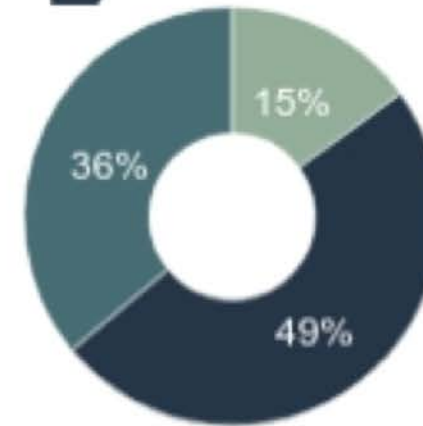
So what?

Gender



72% Male 28% Female

Workforce Age



18 - 39 years	15%
40 - 59 years	49%
60 years +	36%

How do we define “skilled”

	Job Level	Types of roles	Entry pathways	Job examples
<div>“Decider”</div> <div>“Doer”</div>	<div>Managerial jobs (“skilled”) Mostly permanent jobs</div>	<ul style="list-style-type: none"> • Planning • Deciding • Coordinating • Supervising • Documenting 	<ul style="list-style-type: none"> • Family connection • From a similar role in a related sector • Internal recruitment • Graduate recruitment • Traineeship • Word of mouth recruitment • Headhunting / poaching 	<div> <ul style="list-style-type: none"> • Owner Manager • General Manager </div> <div> <ul style="list-style-type: none"> • Nursery Manager / 2IC • Leading hand / foreman / supervisor / team leader </div>
	<div>Non-managerial jobs (“unskilled”, “semi-skilled”) Includes casual and permanent jobs</div>	<ul style="list-style-type: none"> • Doing • Supervising • Documenting 	<ul style="list-style-type: none"> • Family connection • External recruitment • Labour hire • Word of mouth local recruitment 	<div> <ul style="list-style-type: none"> • Nursery hand • Retail worker • Casual worker </div>

Adapted from: Santhanam-Martin and Cowan, 2017

What have we done?

What do we need to do to attract, retain and develop a workforce for the Australian nursery industry?

- Explored the established evidence – *Desktop review*
- Spoke to those in the know – *Key informant interviews*
- Encouraged everyone to have their say – *Online survey*
- Pub-tested our findings – *Industry workshop*
- Validation and direction – *Nursery SIAP*
- #didwegetitright – *Fresh grad's perspectives*

The current situation

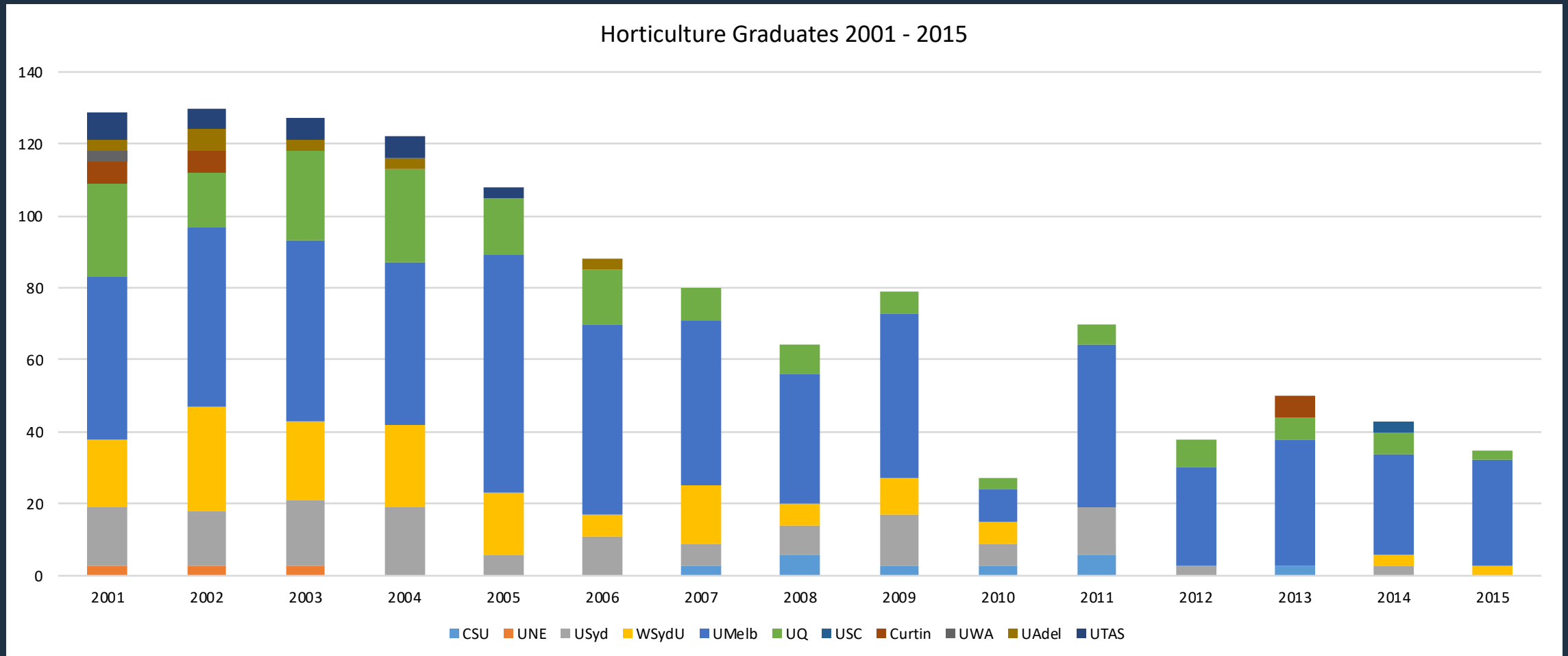
Vocational Education Training Courses

Code	Title
AHC20816	Certificate II in Retail Nursery
AHC20716	Certificate II in Production Nursery
AHC31216	Certificate III in Retail Nursery
AHC31116	Certificate III in Production Nursery
AHC40716	Certificate IV in Retail Nursery
AHC40616	Certificate IV in Production Nursery
AHC50916	Diploma of Retail Nursery Management
AHC50816	Diploma of Production Nursery Management

Tertiary Qualifications

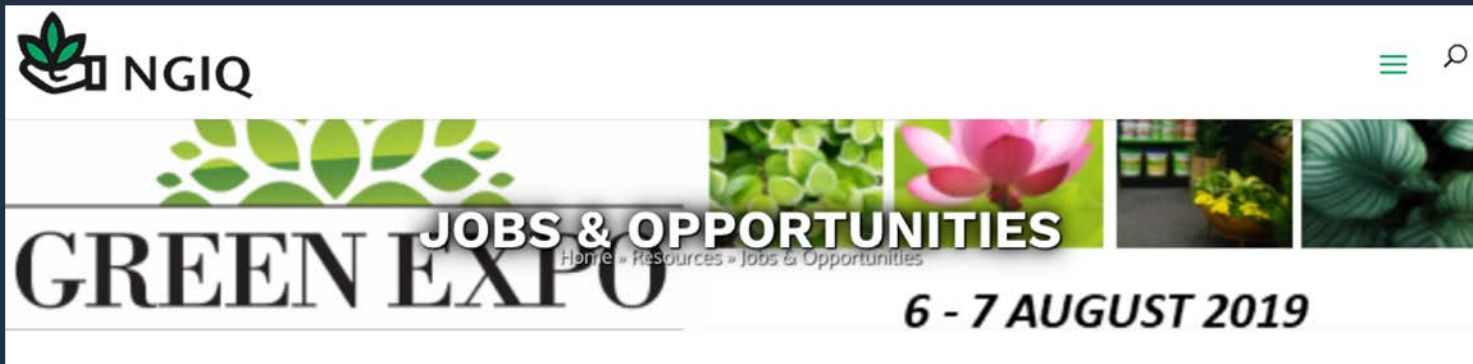
Institution	Degree
Charles Sturt University	Bachelor of Horticulture
University of Melbourne	Master of Urban Horticulture
University of Queensland	Bachelor of Applied Science (Urban Horticulture of Horticulture major)
University of New England	Bachelor of Agriculture (Plant Production major)
University of Sydney	Bachelor of Science in Agriculture (Plant Production specialisation)
Western Sydney University	Bachelor of Sustainable Agriculture and Food Security
University of Tasmania	Bachelor of Agricultural Science (Horticulture major)

Tertiary qualification graduations



Pratley, 2017

Current strategies: Attraction



Production Nursery Pathways

- ▶ CERTIFICATE III IN PRODUCTION NURSERY (APPRENTICE) – AHC31116
- ▶ CERTIFICATE IV IN HORTICULTURE – AHC40416
- ▶ DIPLOMA OF HORTICULTURE/DIPLOMA OF APPLIED HORTICULTURAL SCIENCE – AHC50416/22260VIC
- ▶ BACHELOR OF HORTICULTURE

Qualification

CERTIFICATE III IN PRODUCTION NURSERY (APPRENTICE) AHC31116
Entry Requirements
Industry employed as an apprentice.

CERTIFICATE IV IN HORTICULTURE AHC40416
Entry Requirements
None.
Credit Points
NA, RPL may be applied

DIPLOMA OF SPORTS TURF MANAGEMENT AHC50416/22260VIC
Entry Requirements
None.
Credit Points
NA, RPL may be applied

BACHELOR OF HORTICULTURE

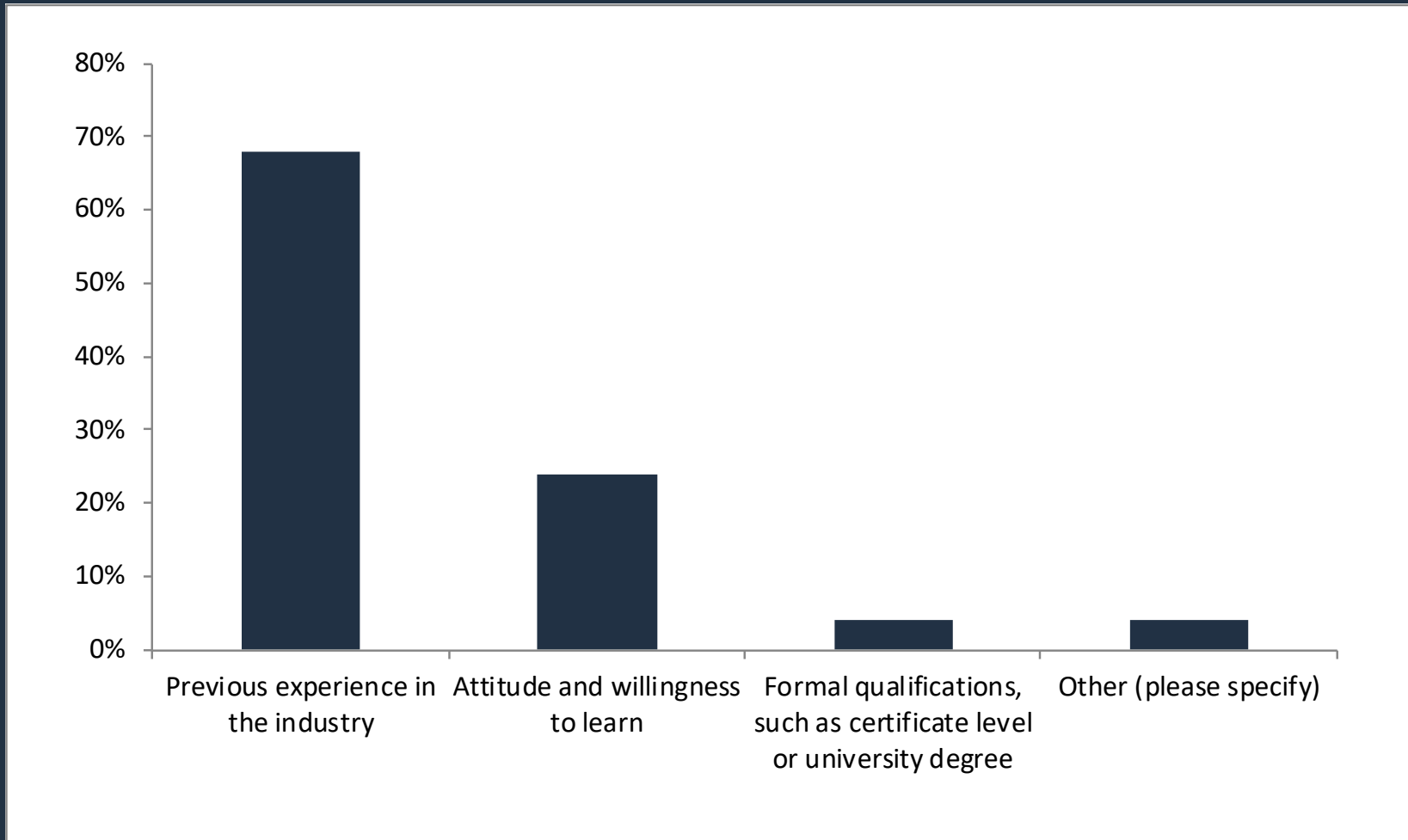
Career outcomes

- ▶ Production Nursery Worker
- ▶ Retail Nursery Worker
- ▶ Garden Maintenance
- ▶ Gardener.

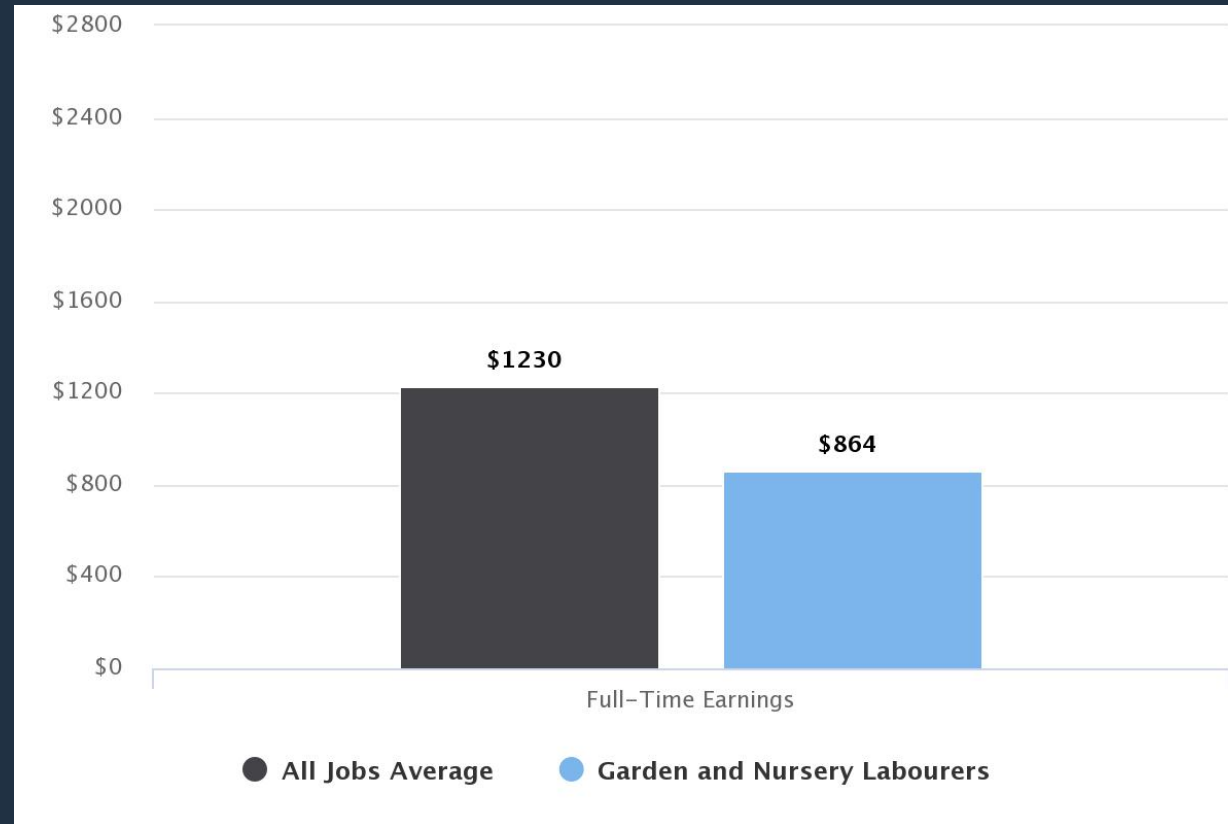
- ▶ Maintenance Gardener
- ▶ Horticultural Enterprise Supervisor
- ▶ Gardener
- ▶ Landscape Designer
- ▶ Parks & Gardens Team Leader
- ▶ Owner Operator garden Maintenance Business,
- ▶ Municipal/City Gardener
- ▶ Horticulturist

- ▶ Senior Horticulturist Parks and Garden Manager,
- ▶ Horticulture Enterprise Manager
- ▶ Gardener
- ▶ Landscape/Garden Designer
- ▶ Horticultural Consultant

When recruiting new skilled staff what is the main quality, skill or attribute that you look for?



Current strategies: Retention



Weekly earnings

Source: Australian Government (2019) Jobs Outlook, Garden and Nursery Labourers

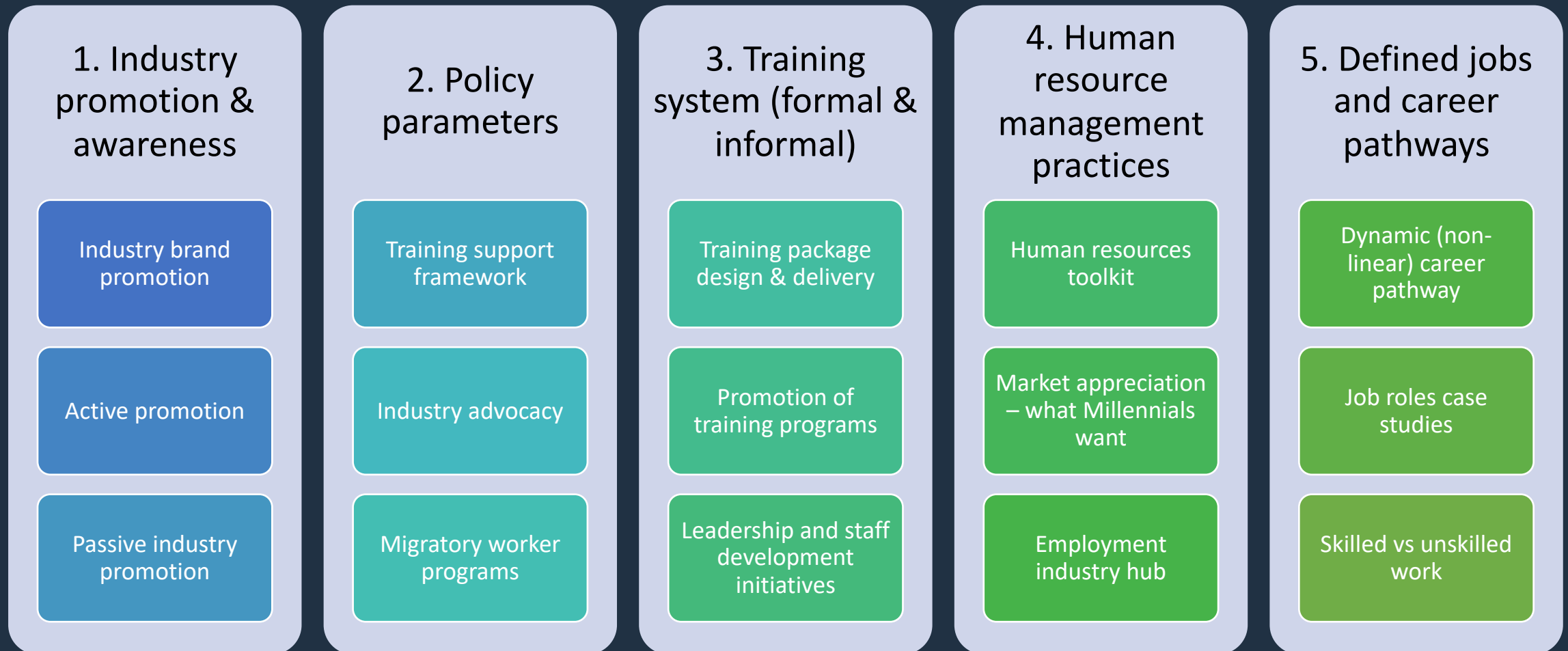
Current strategies: Development



What did we find?

- Shortage of skilled labour - supervisory roles
- Lost workforce generation - 85% workforce over 40 years
- Preference for good work ethic and demonstrated past experience
- Skills gaps are focussed on people development (soft) skills, rather than technical production (hard) skills
- Remuneration, conditions and limited opportunities for career growth are barriers

How do we address this challenge?

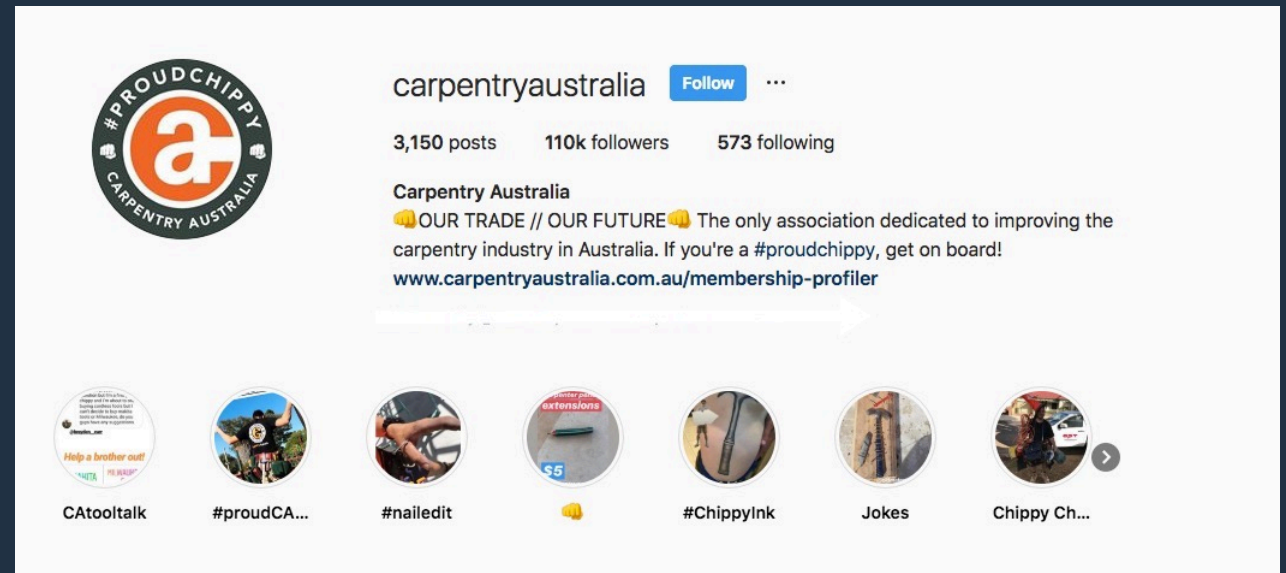


1. Industry promotion & awareness

Industry brand promotion

Active promotion

Passive industry promotion



2. Policy parameters

Training support framework

Industry advocacy

Migratory worker programs



3. Training system (formal & informal)

Training package design & delivery

Promotion of training programs

Leadership and staff development initiatives

Certificate II in Production Nursery – Core Modules

Unit Code	Unit Title
AHCCHM201	Apply chemicals under supervision
AHCIRG217	Assist with pressurised irrigation operations
AHCNSY201	Pot up plants
AHCNSY202	Care for nursery plants
AHCNSY203	Undertake propagation activities
AHCPM201	Recognise plants
AHCPMG201	Treat weeds
AHCPMG202	Treat plant pests, diseases and disorders
AHCWHS201	Participate in work health and safety processes



4. Human resource management practices

Human resources toolkit

Market appreciation – what Millennials want

Employment industry hub



Dairy Australia Webinars Farm Safety Subscribe Contact Us Google Custom Search

Dairy Australia
The People in Dairy

Employment Starter Kit initiative

Find an Advisor Real Stories What's New FAQ Modules

Getting the people management part of a dairy farm sorted and keeping it up to date can be a sizeable task, especially if you are starting from scratch.

The Employment Starter Kit (ESKi) provides easy access to the information & documents you need to start employing someone. As well as accessing the ESKi online, you can order a folder.

Order Now **Keep your ESKi folder up to date:** updates are listed below & sent via email.

Download: 2019 March ESKi update (87 pgs) - inc. all ESKi folder updates made from July 2018 (pay rates) and includes a guide of what's changed in the ESKi folder and read the [overview](#) of updates across the website. [Pastoral Award 2010](#) (print double sided) - look for 21 Nov 2018 at the top of the document. *Note: Pastoral Award has been updated with casual conversion information*

ESKi
EMPLOYMENT STARTER KIT INITIATIVE

THE LAW	EMPLOYING SOMEONE	PAYROLL	LEAVE
Rights and responsibilities Minimum entitlements	Recruitment Induction Probation & retaining	Pay rates Classifications Rosters & record keeping	Annual and personal leave Long service entitlements
LEARN MORE	LEARN MORE	LEARN MORE	LEARN MORE

IFA	TERMINATION	SAFETY	PASTORAL AWARD 2010
Individual flexibility agreement Better off overall test (BOOT) Flat pay rates	Dismissal & redundancy Notice periods Employee separation	WH&S Injury and incident register Safety tips & risk	Legal obligations Hours of work Public holidays
LEARN MORE	LEARN MORE	LEARN MORE	LEARN MORE

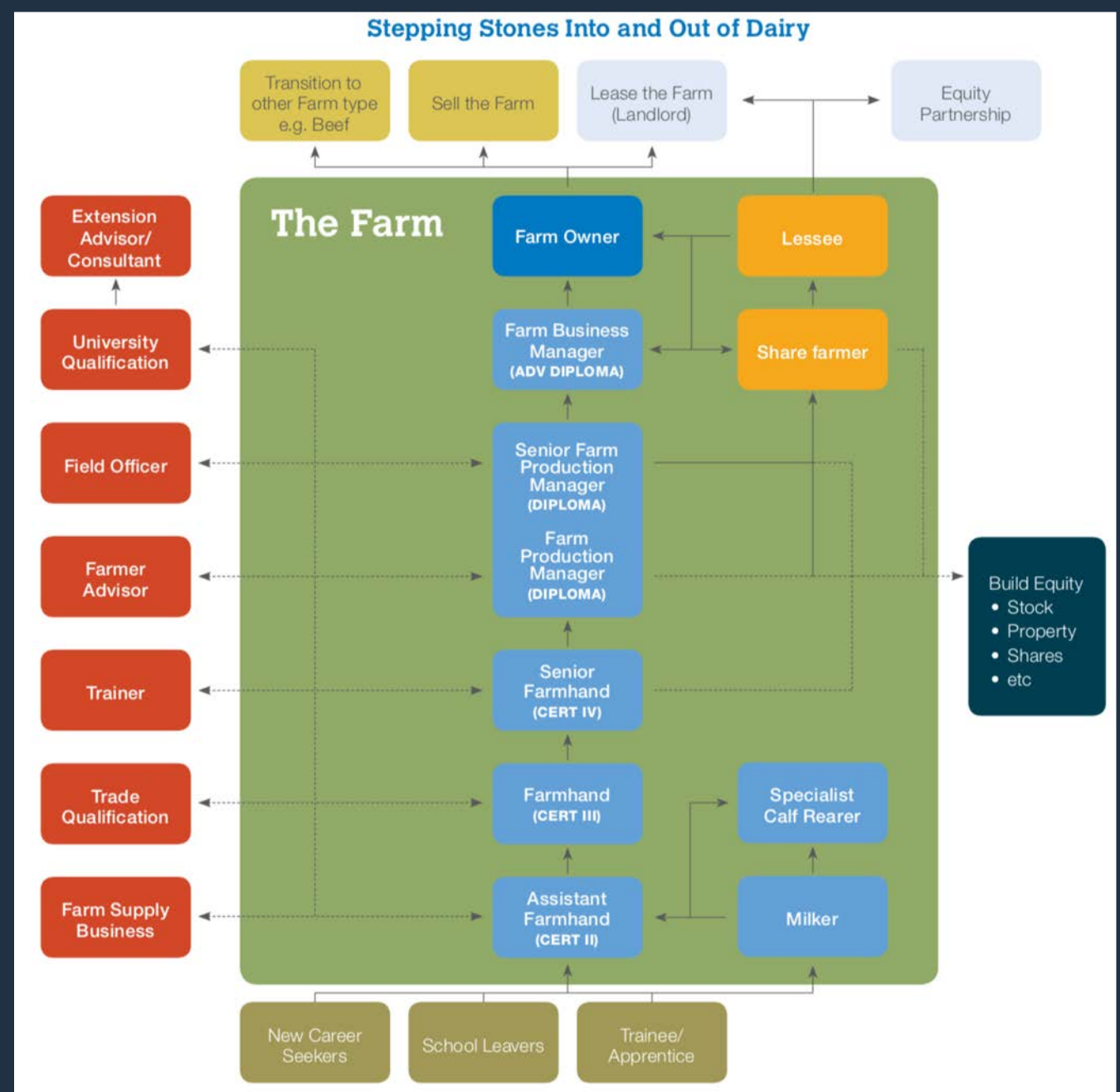
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5. Defined jobs and career pathways

Dynamic (non-linear) career pathway

Job roles case studies

Skilled vs unskilled work



Next steps...

- Strategy provided to industry
- Recommendations for implementation and delivery, including:
 - Coordinated delivery
 - Partnership implementation
 - Resource support through Nursery R&D Levy
- Tri-annual review

Questions?



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