

# Exploring an Australian Cotton and Grains Agricultural Traineeship Model

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## Abstract

The Australian agricultural industry is currently experiencing a significant labour shortage. Despite an increase in enrolments in agricultural university degrees, this trend has not extended to vocational education and training courses. This review paper explores how Vocational Educational Training (VET) and formal apprenticeships and traineeships can provide viable pathways for school leavers and career changers in the cotton and grains industry. The paper will discuss the Australian apprenticeship and traineeship landscape, the need to further promote agricultural careers and pathways in Australia, and how agricultural education and training programs operate in other countries. Additionally, the paper will provide recommendations for strategies and partnerships to increase on-farm workforce capacity within the Australian cotton and grains industry, highlighting agricultural apprenticeships and traineeships as a solution for labour shortages and contributing to farm sustainability.

## Introduction

The Australian cotton and grains sectors, like much of the agricultural industry, are facing significant workforce challenges, as well as the need for continual adaptation to changing consumer requirements, global competition, and technological advancements (Azarias et al., 2020; Greenville & Cameron, 2022). Digital transformation has significantly impacted the efficiency of the cotton and grains industry via advanced automation, mechanisation, and information-based technologies (Manning et al., 2022b; McDonald et al., 2022a). There is a need to shift workforce skills, including retaining traditional skills and transitioning to highly skilled cognitive capabilities such as data analysis, problem-solving, and digital literacy. With an aging workforce and widespread labor shortages, it is vital to attract younger skilled workers to agriculture (Consentino et al., 2023; Cosby et al., 2022; McDonald et al., 2022b). Apprenticeships and traineeships offer an entry pathway for young people through the development of real-world skills obtained while contributing to the future of the industry (Skills Insight, 2024).

The development and support of an Australian AgriFood traineeship and apprenticeship program, as recommended in the National Agricultural Workforce Strategy (NAWS) report (Azarias et al., 2020), is one solution to addressing the industry's training and workforce attraction issues. Agriculture struggles to compete as an industry of choice for young people due to the lack of formal recognition for the diverse specialised skills required in farm work and associated roles. In contrast, sectors such as engineering and construction offer structured apprenticeship programs that provide formal training and a clear trade pathway to skilled employment (Department of Employment and Workplace Relations, 2024a). Implementing similar apprenticeship programs in agriculture would highlight the necessary competencies and

could attract young talent seeking a recognised path for skill development and career progression.

Advancing such a program also has the potential to establish mutually beneficial partnerships between industry, education, and employers (Callan & Ashworth, 2004). Training partnerships in the Vocational Education and Training (VET) sector are growing across various industries, requiring registered training organisations (RTOs) to create flexible programs that meet business needs, enhance staff capabilities, and address competitive challenges (Bowman & Callan, 2021; Smith et al., 2024). We agree that this collaborative effort is essential to developing sustainable solutions that effectively address key workforce issues, including dispelling negative perceptions of agricultural careers (O’Dea et al., 2023; Prasetyaningrum et al., 2022). To address these workforce concerns, there is an urgent need to promote agriculture as an attractive career and provide targeted education and training (McDonald et al., 2022b). Both formal and informal training are needed to support cotton and grains growers to ensure current and future workforces can readily adapt skillsets to reflect emerging technologies and changing practices.

This review paper explores the potential for the cotton and grains sectors to develop an industry relevant, implementable, and sustainable agricultural apprenticeship and traineeship model in Australia. The review will focus on: (a) the current Australian apprenticeship and traineeship system; (b) the relationship of vocational education and agriculture; (c) how Australian apprenticeship programs operate compared to other countries; and (d) the barriers, pathways, and opportunities for implementing and promoting high-quality cotton and grains focused agricultural apprenticeships and traineeships within Australia. Recommendations on how vocational educational training (VET) and formal apprenticeships and traineeships can support pathways for young people in the cotton and grains industry and opportunities for on-farm staff will be made.

## **Australian Apprenticeships and Traineeships**

In Australia, the use of the terms ‘apprenticeship’ and ‘traineeship’ both refer to forms of work-based training programs that provide individuals with practical skills and industry-specific knowledge (Knight, 2012). Each involves a mutually beneficial contractual agreement between employers and employees that provide intensive mentorship to pass skills from one generation to the next. They support the development of the employee’s practical skills in parallel with a theoretical educational program. They are an attractive opportunity to combine paid employment with obtaining a qualification so that apprentices can ‘earn and learn’ (Stanwick et al., 2021).

The Australian apprenticeship system is available to anyone of working age and offers the opportunity to study and earn an income while undertaking a qualification in trade (apprenticeships) or non-trade-based roles (traineeships). Australian citizens or permanent residents are automatically eligible, and temporary residents or visa holders may be eligible based on specific skills listed by the Australian Government (Department of Home Affairs (2024)). They involve employers creating a job and using this as a way of employing and training new workers across a wide range of industries including traditional and future-focused careers. In 2014, the Apprenticeship Support Australia (ASA; 2024) network was established to deliver the Australian Government's Apprenticeship Support Services. Under contract from the Department of Employment and Workplace Relations, ASA operate across multiple states and locations via supporting Group Training Organisations (GTOs), Registered Training

Organisations (RTOs), and Industry Associations in managing their apprenticeship and traineeship programs. ASA provides face-to-face engagement and comprehensive services to improve apprenticeship commencement and completion rates within these partner organisations and groups. Specialised support is also provided in engaging and training women in male-dominated trades, First Nation Australians, and apprentices in the growing Clean Energy sectors (Griffin & Andrahannadi, 2023).

In Australia, each state and territory operate its own Vocational Education and Training (VET) system, with some discrepancies between different bodies. Individual State and Territory governments decide which qualifications will align with an apprenticeship or a traineeship and may offer different funding models based on this classification (Azarias et al., 2020; Stanwick et al., 2021). These can also change from year to year with changes to priority occupation lists. Not having a national approach to VET training and funding creates additional layers of complexity for industries and employers that can further complicate any uptake of this type of training model (Azarias et al., 2020; Productivity Commission, 2020).

## **Australian Vocational Education and Agriculture**

Education and training within an Australian apprenticeship or traineeship is often ‘workplace-based’ combined with occupation specific hands-on training. This format can also be applied to agriculture, but the diversity of occupations and skills requirements within the industry does not easily lend itself to a ‘one-size-fits-all’ apprenticeship and traineeship model.

### **Current state of Agricultural VET**

Any agricultural apprenticeship or traineeship must be linked to VET qualification courses in Agriculture or Rural Operations. Within Australia’s VET system, some industry-specific agricultural qualifications for the pork, dairy, wool, and poultry sectors exist, ranging from Certificate II to IV. There are units of competency that are ubiquitous across agricultural qualifications (such as those relating to workplace health and safety), and some are specific to each industry. Often these qualifications link with an apprenticeship or traineeship, as is the case with Certificate III in Shearing (Department of Employment and Workplace Relations, 2024b). These VET certificate courses may take 4-18 months to complete and are awarded when the student gains the required skills and knowledge.

In recent years, the development of Agricultural VET courses and units has been impacted by a decline in participation of students in favour of university qualifications. Between 2016-2020 there was a 19% decrease in agricultural VET related apprenticeships and traineeships (Azarias et al., 2020). Some universities have also entered the VET sector to combat this phenomenon, resulting in a myriad of arrangements between RTOs and various universities operating within the agricultural education space (Azarias et al., 2020). Between 2023 and 2024, total fee-free VET enrolments across Australian TAFES was 568,451, with agricultural training attracting approximately 4 percent or 22,114 students (Department of Employment and Workplace Relations, 2025).

The Agricultural VET landscape continually shifts in relation to supply demands and governments focused on addressing needs within the sector for a skilled workforce. In 2019, the Queensland Agricultural Training Colleges (QATC) closed due to declining enrolment and financial deficits. These colleges had provided residential opportunities for regional students

who could not find equivalent training via any of the current VET offerings offered via private RTOs (Plunkett, 2019). In NSW, the AgSkilled 2.0 initiative supported by the NSW Government and as well as the grains, cotton, horticulture, viticulture and rice growing industries, provides fully funded training to upskill individuals interested in plant production (GRDC, 2021).

Introducing a national AgriFood Apprenticeship or Traineeship model, not dissimilar to apprenticeships for other professions such as an electrician or plumber, may seem like a logical solution to establish a stable entry training pathway to a currently complex VET landscape marred by the ongoing flux of VET course introductions and closures. However, the diversity of occupations and skills requirements within the Australian agricultural industry does not easily lend itself to a 'one-size-fits-all' apprenticeship and traineeship model. This occupational diversity is reflected in the many different study areas contained within the VET Agriculture, Horticulture and Conservation and Land Management Package (Australian Government, 2025) that cover a very broad range of agricultural industries.

## **Examples of International Apprenticeship Models and Agriculture**

Apprenticeship programs across all industry sectors have undergone a multitude of political and social transformations resulting in variations in formality, duration, regulation, and level of qualification achieved (Skills Consulting Group, 2023). Across numerous countries, these systems are often revised to improve outcomes for all participants. One study (Fortwengel et al., 2021) examined apprenticeship renewal attempts in eight countries including the US, England, and Australia, where neoliberal policies resulted in increased privatisation, deregulation, and competition in the VET and labour markets. They reported that apprenticeships had different public perceptions in these countries, with apprenticeships underrepresented in the workforce across Australia (3.7%), New Zealand (2.8%), Canada (2.0%), England (1.8%) and the USA (0.2%). Employer participation rates vary greatly between nations, with estimates below 1% in the US, 8% in England and up to 30% in Australia. This inconsistency has much to do with the design of the apprenticeship system and the industry's national framework in which the apprenticeship fits, with the trades sector more likely to offer training places (ILO, 2020).

In some OECD countries, including the UK, employers must contribute to their version of vocational education and training (VET). In the UK, employers with an annual wage bill over £3 million must pay a 0.5% Apprenticeship Levy. This system allows employers to receive appropriate funding for the training of apprentices. Employers who don't pay the levy must contribute 5% of the training cost for their apprentices, with the government covering the rest. There are other industry-wide training levies such as the UK's Construction Industry Training Board (CITB) Levy. Employers with fewer than 50 employees receive full funding for apprenticeship training for certain age groups. Employers must also pay apprentices for their normal working hours to cover at least the minimum wage, which increases depending on age and progress through an apprenticeship course (CITB, 2022). In regard to agricultural apprenticeships, UK Agriculture (Forestry and Fishing) has the lowest number of overall apprenticeship in comparison to other industry sectors. UK farming businesses are underutilising this option and there is now a focus on creating greater flexibility of Apprenticeship Levy Funding (or alternative funding) and shorter, more focused vocational training pathways (pre-apprenticeship), to provide better workforce solutions for smaller farming businesses (Lantra, 2024).

The New Zealand Apprenticeship is the official program established in 2012 in the wake of a review of the Industry Training system. It offers work-based training and vocational pathways for individuals of all ages who seek to earn while they learn within the industry of their choosing. To become an apprentice, you must be 16 years or older, employed in the industry you are training for, and enrolled in a level 4 New Zealand Qualification. A mandatory training agreement between the apprentice, employer, and tertiary provider managing the apprenticeship outlines the training and support requirements. The New Zealand government currently offers a fee subsidy for many courses through Fees Free Trades Training, which can provide up to two years' training fee-free (Primary ITO, 2022; Skills Consulting Group, 2023)

Apprenticeships within France are work-based and school-based training programs. The two main apprenticeship schemes are the apprenticeship contract and the professionalisation contract, leading to qualifications from secondary to higher education levels. Companies can fully handle apprenticeships or share the role with apprentice training centres. The international mobility of apprentices is a priority in France. Farmland access is through rental agreements, regulated by the Commission for the Orientation of Agriculture and SAFERs (non-profit private companies) to support balanced rural land development. To farm agricultural land or expand farm size, an 'Authorization to Farm' is required to control farm sizes, ensure farms remain family-owned, and encourage young people to enter farming (CEDEFOP, 2024). In France, youth completing agricultural apprenticeships are supported by the compulsory apprenticeship tax, which helps finance vocational training. However, the system is criticised for its complexity and lack of transparency, as some tax funds are allocated to technology or professional training outside apprenticeships.

In Germany, those attending vocational courses must make a contribution towards their costs, with some support for low-income groups. It also provides vocational training grants (BaföG) to support apprentices who do not live with their parents and whose apprenticeship pay is not high enough to cover living costs. Businesses are able to claim all apprenticeship-related costs (including wages and insurance costs) as tax deductions, however, there is no levy system in Germany to support apprentice training schemes (CEDEFOP, 2024; European Commission, 2024; Muehlemann et al., 2020). In past years, Germany's apprenticeship system has been an important factor in its low unemployment levels, but more recent increases in university enrolments has seen a decline in apprenticeship training, with many apprenticeship positions including those within agriculture and horticulture remaining empty (Muehlemann et al., 2020).

In the United States of America (USA), apprenticeships are industry-driven career pathways for developing the future workforce. The Department of Labor provides an 'Apprenticeship Finder' website to help employers and potential employees connect. Financial assistance for training programs is employer-provided and there are no government subsidy programs to support apprentice training costs. There is also interest gaining in the promotion of rural apprenticeship programs as a sustainable economic catalyst for reducing the 'brain drain' by providing rural young people with high-quality careers and local employers with a highly skilled workforce (Boren et al., 2021). High-demand agricultural apprenticeship occupations include various roles such as farmers, rangers and managers, animal caretakers, soil and plant scientists, pesticide handlers, and farm equipment mechanics and service technicians. Skilled Through Alternative Routes (STARs) is a term, first identified in 2020, to describe adults in the USA who have work experience and skills acquired on the job as opposed to traditional degree pathways and recognise their skills levels with appropriate remuneration (Blair et al., 2020).

There are similarities between this workforce perception and that of agricultural roles by the Australian community in terms of the skill level acquired on the job. It may present a way to counteract the perception of university as the necessary pathway after school for young Australians. It also highlights the importance of providing career education to support recognition of skills, experience and pathways available into various agricultural sectors such as cotton and grains (Cosby et al., 2022).

## **Barriers, Opportunities, and Recommendations for Cotton and Grains**

The cotton and grains industry needs both formal and informal training to support growers and their workforce in adapting to new technologies and changing practices. An Australian AgriFood traineeship and apprenticeship program (Skills Insight, 2024), aims to enhance workforce capability through targeted training by fostering partnerships between industry, education, and employers. While apprenticeships and traineeships are common in both trade and non-trade roles in Australia, they are recognised in some agricultural trades such as mechanics (Black et al., 2024), but less recognised in non-trade agricultural roles. To address workforce shortages, the cotton and grains sectors have an opportunity to explore potential apprenticeship and traineeship programs that consider the capabilities, opportunities, motivations, and barriers of key stakeholders. This will ensure sustainable solutions to effectively address workforce issues. Several considerations and challenges exist with regards to ensuring the successful design of any agricultural apprenticeship or traineeship. These are now discussed.

### **Agricultural skills required**

Agricultural apprentices will need to be competent in a wide range of technical and non-technical skills to be ready for work and to adapt to the ever-changing nature of the industry. The nature of agricultural work is changing, with a rise in high-skilled jobs and a more professionalised workforce (Manning et al., 2022b). The sector requires a wide variety of skills, from farm management and agribusiness, to biosecurity and trades, to veterinary science and engineering (Bassett et al., 2022). In addition to job-specific skills, generic skills such as entrepreneurship, learning agility, information literacy and STEM skills are becoming increasingly important (Cosby et al., 2019a; Krause et al., 2022; McNeill et al., 2020). Industry and government reports both from Australia (Azarias et al., 2020) and abroad (Consentino et al., 2023) also reflect on the need to maintain workforce innovation, including the upskilling of talent to respond to trends affecting the sector globally.

Equally important to agriculture are non-technical skills (McDonald et al., 2024) such as literacy and communication, which are important aspects of a potential apprentice's suitability, which may be barriers in some agricultural apprenticeship situations. Declining writing skills in Australian high school students (Hunter et al., 2024) present a challenge to future employers needing apprentice employees who can communicate clearly and effectively and are capable of completing any required training component independently. An Australian study (O'Neill & Gish, 2001) found that employers placed great emphasis on apprentices having adequate English language and literacy skills, with them stating that legible handwriting, accurate spelling and punctuation and acceptable sentence cohesion and meaning have a profound effect on workplace performance, particularly in industries where written text types were a central part of a business's operation. There was a clear perceived difference in the perceptions of adequate literacy between the employer and apprentices, with the apprentices surveyed in the study being less concerned about their functional literacy and written communication skills.

This issue is particularly significant for culturally and linguistically diverse (CALD) workers within Australian agriculture (Agriculture Victoria, 2020).

### **Agriculture career education**

While supply and demand continues to influence the ongoing investment and provision of VET training, it is vital that the introduction of any Agricultural Apprenticeship and Traineeship is supported by efforts to build a pipeline of young people interested in pursuing this pathway. Generating interest in agricultural careers needs to begin early (McDonald et al., 2022b). Countries with well-established apprenticeship systems often excel at youth school-to-work programs. Effectively structured pre-apprenticeships programs are a way to give high school students a taste of an agriculture career without an employment agreement or certificate level training in a part-time environment. They can also act as a screening mechanism to ensure interest and filter out unsuitable candidates (Jones, 2017). Career counsellors and educators within schools play a key role in highlighting agricultural careers that offer diverse, high-paying prospects (Cosby et al., 2019a; McNeill et al., 2020). It is crucial to build the capacity of school educators in understanding and teaching career pathways in agriculture, ensuring they can effectively guide students (Cosby et al., 2024; Manning et al., 2022a). By supporting both counsellors and educators, students are empowered to make informed choices and explore successful training and career alternatives.

Incorporating agricultural education into school curriculums introduces students to a wide range of career opportunities within the agricultural industry (Cosby et al., 2022; McDonald et al., 2022b). This helps diversify the workforce by exposing students to careers in farming, agribusiness, biotechnology, and environmental conservation. These careers require a mix of traditional knowledge and modern technological skills (Manning et al., 2022b). By introducing students to these opportunities early on, schools can inspire interest in agricultural careers and encourage further education and training in the field, ensuring a steady pipeline of skilled professionals ready to innovate and lead in the industry (Cosby et al., 2022; McDonald et al., 2022b).

Agricultural career education encourages future workforce growth by supporting and developing students' non-technical and transferable skills that include critical thinking and problem-solving (McDonald et al., 2024). These skills are applicable across all agricultural sectors and are highly valued in various industries, making students who have received agricultural education versatile and competitive in the job market. As the agricultural sector increasingly relies on advanced technologies and data-driven decision-making, the need for a workforce well-versed in these areas becomes even more critical (Manning et al., 2022b; McNeill et al., 2020). By investing in agricultural education, schools can contribute to a more robust and adaptable workforce capable of driving growth and innovation across multiple sectors, ultimately supporting broader economic development.

Educating the next generation about careers in agriculture is crucial. Despite being a cornerstone of the Australian economy, the perception of agriculture by students is often an unknown career option or mistakenly seen as unappealing and limited (Cosby et al., 2022; O'Dea et al., 2023). The technologies and diverse roles in agriculture need to be showcased to attract new talent and build a sustainable workforce for the future (Cosby et al., 2024; Cosby et al., 2019b). Modern agriculture is highly innovative, involving advanced technologies such as precision farming, biotechnology, and sustainable practices, yet outdated perceptions persist (Manning et al., 2022b). To address this, targeted outreach and education are needed in schools

and universities to showcase the diversity of roles in agriculture, from agronomy and farm management to agri-tech and environmental conservation. By shifting these perceptions and promoting agriculture as a dynamic, rewarding field, we can attract new talent and build a sustainable workforce for the future.

### **Employer and worker engagement in training**

A clear engagement strategy is required to encourage and support employers and workers to implement an agricultural apprenticeship or traineeship within their businesses and make training accessible within the workflows of operational demands. Recent international innovations have addressed current weaknesses in apprenticeship systems to maximise their potential (Chankseliani et al., 2017). The 'place and partnership' organisational principle (Longley & Clarke, 2022) leverages local leadership to facilitate the employer, educator, and apprentice connections at a local level. The qualifications and curriculum are co-designed by all stakeholders on the ground in the area, who know and understand local issues. They can support new entrants to the workforce, collaboratively identify the local needs of employers and industry, and locally monitor progress to ensure shared goals and outcomes are achieved. With clearly defined roles for each local stakeholder and formalised communication and collaboration, this process contrasts starkly with the top-down, prescriptive and rigid approach of other systems, and ensures any stakeholder concerns are quickly addressed by local expertise (Bowman & Callan, 2021; Longley & Clarke, 2022). Additionally, local peer expertise and support for apprentices can encourage self-efficacy and wellbeing, which encourages workforce participation (Luke et al., 2024).

The Cotton Australia Grower Survey (CRDC, 2022) of 200 respondents found that only 4% employed an agricultural trainee, while 15% had never heard of a traineeship/apprenticeship program. Many employers who were aware of traineeships but did not hire trainees cited several reasons for not participating. These included not having a need for a trainee, difficulty in finding an employee willing to commit to a traineeship, insufficient release time for off-site training, lack of financial incentives, and a lack of local training options. Additionally, some respondents mentioned a preference for hiring experienced contractors for immediate and cost-related reasons. All of these responses highlight the significant internal and external barriers that continue to impact growers' decisions regarding apprenticeships or traineeships.

The Productivity Commission (2020) identified several factors preventing people engaging with or completing apprenticeships. These factors include undervaluation and poor promotion of the apprenticeship system, unattractive immediate or future wages, prohibitive training costs, competition from other industries, lack of information about career opportunities, and unsatisfactory, unrewarding working conditions. Agriculture is competing with a lucrative mining sector where 5000 new apprenticeships are being targeted (Constable, 2021). Agricultural apprenticeships are not well promoted in schools, and society does not highly value or understand the VET sector within this industry. Many people see university as the only valuable education pathway, while apprenticeships are seen as a secondary option (Cosby et al., 2024; McDonald et al., 2022b; Skills Insight, 2024).

Co-operation across sectors can help provide support services for hosting apprentices on the farm. This can include organisations offering pastoral care, online literacy, and managing workplace behaviour. A tailored training program should be developed for farmers to support apprentices. Ongoing funding is needed to upskill current and future agriculture workforces impacted by technological transformation. Collaboration between industry, growers, and training organisations can ensure that vocational units for agriculture apprenticeships reflect

the skills required for current farm work. Additionally, a program to upskill experienced agricultural workers as trainers (such as the Certificate IV in Training and Assessment; Department of Employment and Workplace Relations, 2025b) should be implemented. Many valuable agricultural employees are also already working in the sector without a recognised qualification and through the recognition of prior learning (RPL), these employees can have their skills and knowledge formalised. This will pave the way for them to become suitable, qualified, and experienced on-farm supervisors for future apprentices.

### **Reduce the complexity and understand incentives**

As highlighted in our review of Australian VET in agriculture, the system of providers and programs is complex and an ever evolving landscape. This remains the dominant barrier to high-quality apprenticeships programs in Australia and is largely due to the duality of governance arrangement at both state and federal levels (Oliver, 2010). Within each state's apprenticeship system is a congestion of stakeholders including employers, apprentices, RTOs, unions, parents, schools, teachers, industry associations, training advisory bodies, the Fair Work Commission, the Australian Apprenticeship Support Network (AASN), and Australian and State government agencies. This complexity, along with constant policy changes, does little to enhance employer confidence and engagement in the system (Stanwick et al., 2021). Additionally, governments lean towards short-term solutions to apprenticeship policies, which creates a significant challenge to getting traction for a new agriculture apprenticeship.

Australian non-trade apprenticeship commencement and completion rates have been in decline since 2012, following the introduction of the accelerated apprenticeship initiatives, which occurred between 2011 and 2016. This decline may be attributed to the system's complexity, changes to employer incentives, increases to apprentice pay in 2014, interactions between apprentices and RTOs and the system's relevance to the apprenticeship environment (Productivity Commission, 2020; Stanwick et al., 2021). The strong social obligation that qualified tradespersons once held to continue their craft, has been replaced with a tick-and-flick model of assessing competency that threatens to undermine the quality of the future workforce (Jones, 2017). The National Agricultural Workforce Strategy highlighted the need for training to be offered where and when it is needed but warned that there is currently not enough incentive for RTOs to respond to industry needs in a timely and meaningful way (Azarias et al., 2020).

Chankseliani et al. (2017) found that employers are less likely to engage apprentices when they feel they are working independently. Employers are more likely to participate in apprenticeship programs when apprentice training is seen as a collective investment in their industry. This harks back to the original notion of tradespeople taking on apprentices under a social obligation to ensure those skills are passed on to the next generation. A decentralised and varied place-based approach to training and employment within agriculture is a better proposition to cater to specific sector and student needs and ensure participation is justified for all stakeholders.

Further investigation is needed to understand what incentives employers seek to successfully engage with an agricultural apprenticeship program such as for cotton and grains, and which factors are the strongest drivers to participation. Importantly, employers should be encouraged to be critical consumers of RTOs and request detailed information about training delivery. Industry also needs to be mindful that there is little regulation of the on-the-job training provided by employers, so support mechanisms would be needed to ensure this process is seen as beneficial and worthwhile for all stakeholders.

The Australian Government's Department of Employment and Workplace Relations (DEWR) funded the Skills Insight Jobs and Skills Council to conduct a feasibility study on an agriculture-based trade apprenticeship model (Skills Insight, 2024). Initial evidence showed that employers appreciate the development of employees and benefit from increased workplace efficiency and productivity. Continued engagement with VET is evident; however, the use of nationally recognised training hinges on factors such as clear information on cost, convenience, relevance and expected outcomes (i.e., a recognised industry 'ticket'). The development of a nationally consistent and locally contextualised assessment and training model was universally agreed upon by participants. The development, implementation, uptake and completion of this proposed agriculture trade apprenticeship hinges on universal state and territory processes and recognition systems. It is important to communicate clear requirements for apprentices, employers, and the Registered Training Organisation (RTO) in order to make the apprenticeship a viable option for both parties. Stakeholders need to identify industry-specific competencies and promote the training program within the industry to attract suitable candidates.

## **Conclusion**

Exploring an Australian cotton and grains agricultural apprenticeship and traineeship model highlights the critical need to strengthen workforce capacity in the sector. By examining the Australian apprenticeship and traineeship landscape, it becomes clear that more must be done to promote agricultural careers and increase participation. For an agriculture apprenticeship specific to the cotton and grain industries to be a viable option, the requirements of the apprentice, the employer, and the RTO must be clearly communicated, with adequate mentoring and financial support provided, especially for first-time participants (Skills Insight, 2024). Future research and development for an agriculture apprenticeship must take a multi-faceted approach encompassing workforce and stakeholder needs, training development, targeted careers education, and promotion of agricultural trade occupations (McDonald et al., 2022b; O'Dea et al., 2022; Skills Insight, 2024). Drawing lessons from agriculture vocational training models in other countries, alongside targeted recommendations within this paper, provides a pathway to strengthening on-farm workforce capacity and ensuring the long-term sustainability of the grains and cotton industries.

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