Ag Trade Apprenticeship Feasibility Report

April 2024

Skills Insight

Contents

Acknowledgement of Country

Aboriginal and Torres Strait Islander peoples have a proud and continuous connection to Australia's land and waters. We acknowledge the Traditional Owners and custodians, and the continuing connection of Aboriginal and Torres Strait Islander peoples to the lands, waters and communities. We pay our respects to Elders and Leaders, past and present, and to all Aboriginal and Torres Strait Islander peoples who have supported our work.

We acknowledge the importance of learning from Aboriginal and Torres Strait Islander peoples' unique history of land and ecosystem management, art, culture and society. Their connections are particularly important given our involvement in work directly connected to utilisation, care and stewardship of Australia's land, waters and ecosystems, and the animals, trees and plants that inhabit them.

Skills Insight Jobs and Skills Council is working to develop improved participation of Aboriginal and Torres Strait Islander enterprises, businesses, communities and peoples in our work. We will continue to work to develop strong, mutually beneficial relationships with Aboriginal and Torres Strait Islander partners who can help us deliver better outcomes for Aboriginal and Torres Strait Islander peoples, recognising their motivation and abilities in improving quality of life, employment opportunities and skills outcomes in their communities and across Australia.

Acknowledgements

This project was driven by the work of the Minister for Agriculture, Fisheries and Forestry, based on the advice of the tripartite Agricultural Workforce Working Group, the predecessor to the current Agricultural Workforce Forum, which is continuing to provide guidance and support. We thank the Minister and members of these groups for providing their time and expertise.

Skills Insight would like to acknowledge the support of the Australian Government, through the Department of Employment and Workplace Relations (DEWR) which funded the project, and the Department of Agriculture, Fisheries and Forestry (DAFF), which provided support.

Skills Insight would like to thank the following organisations who supported their staff being involved in the steering committee project process:

- Agri-tech Education and Innovation CQUniversity Australia
- Australian Country Choice (ACC)
- Australian Dairy Farmers
- Australian Workers Union
- Department of Employment, Small Business and Training (DESBT) – Queensland
- Food, Fibre and Timber Industries Training Council WA
- Irrigation Australia
- National Farmers' Federation
- Rural Industries Skill Training (RIST)
- TasFarmers
- Tocal College, NSW Department of Primary Industries.

Origin of the Ag Trade Apprenticeship Feasibility Report

Australian agriculture is renowned for high-quality products. Less recognised is the product that is produced in the form of interesting jobs across the supply chain, especially the on-farm roles and support services undertaken in some of the most fascinating regions in the world.

Despite this, agribusiness struggles to recruit and retain a skilled workforce. On-farm roles and support services roles are highly-skilled, require specialised knowledge, deal with biosecurity and advanced technology, and can carry significant risk to workers. They have all the hallmarks of traditional trades, such as construction, plumbing, and electrical work, but without the same level of recognition.

This is not a new problem, but one that has continued to grow over the years and has become increasingly critical if Australia is to maintain food security and grow productivity to meet its targets for the industry as articulated by the National Farmers' Federation.

The Federal Minister for Agriculture, Fisheries and Forestry, Senator the Hon Murray Watt, convened an Agricultural Workforce Working Group at the Australian Jobs and Skills Summit in September 2022. This group, which led to the formation of the current Agricultural Workforce Forum, included representatives from employer groups, unions, experts and the Australian Government. The Group focused on finding solutions to workforce issues in the agriculture and processing sectors, including skilling, attracting, retaining and protecting workers.

In April 2023, Senator Watt requested that the Hon Brendan O'Connor MP, the Minister for Skills and Training, and State and Territory Skills Ministers, consider the establishment of an agricultural trade pathway as one of the potential solutions to address workforce recruitment and retention. Skills Insight Jobs and Skills Council was formally formed in late May 2023, and were requested to commence the work on a project starting in July 2023 on the feasibility of an agriculture trade pathway and the next steps needed to implement a viable program.

This report is the completion of the first step in the process of establishing an Ag Trade pathway, reporting on its potential feasibility and identifying barriers to its successful establishment.

The term 'Ag Trade' is used as the longer-term aim is to ensure any feasible approach is designed so that it can be utilised across the whole of the agribusiness, agriculture and processing sectors with industry support.

Executive Summary

At the request of the Minister for Agriculture, Fisheries and Forestry and the Minister for Skills and Training, and funded by the Department of Employment and Workplace Relations under the Jobs and Skills program, Skills Insight has completed an initial feasibility study into the potential for the development of a trade pathway for agriculture and processing through a formal apprenticeship.

Recommendations for an agricultural trade pathway have been made by the Agricultural Workforce Working Group, the National Agricultural Labour Advisory Committee in the National Agriculture Workforce Strategy, and the National Farmers' Federation in their 2030 Roadmap.

Improving the visibility of on-farm career pathways and enhancing the attractiveness of a career in agriculture are considered to be some crucial steps in addressing the current workforce challenges faced by this industry, particularly when it comes to attracting new entrants.

To conduct the initial feasibility study and to complete a proof of concept, Skills Insight Jobs and Skills Council undertook consultations, workshops, a survey, interviews, and scenario testing based on a conceptual model apprenticeship (see Appendix 1) that could be applied to broadacre cropping, dairy production and livestock production.

The study considered evidence that when employers appreciate the development of employees, and benefit from increased workplace efficiency and productivity, they are more likely to continue engaging with the VET system. However, the use of nationally recognised training is contingent upon various factors, including if and how it is promoted, where it is available, cost and convenience, the expected relevance and outcomes of the training, industry culture and attitudes to formal education, and whether it provides an industry 'ticket'. These factors were clearly identified by industry stakeholder participants as having significant implications for the success of an Ag Trade Apprenticeship.

Key Findings

There is significant support for the development of an Ag Trade Apprenticeship among industry participants, including employers, unions and trainers. The concept was also met with resistance from some quarters, particularly those with concerns over currently available – and successful – training pathways being compromised by the introduction of a new, untested program.

However, there is considerable evidence to suggest that, with the right implementation and support mechanisms in place, an Ag Trade Apprenticeship could be an attractive pathway for new entrants, increase the professionalism in the industry, improve safety performance, and help to alleviate current and future skill shortages.

It appears feasible that Skills Insight can develop an appropriate Certificate III-level trade qualification, initially based on three identified sectors, and, subject to delivery success, could be extended to other related sectors over time. Delivery of this qualification would be dependent on:

- designing a qualification with approximately 20 core units and between 12-18 additional units required as electives.
- the development of nationally consistent, locally contextualised assessment and training resources, including a delivery guide to map out the period of the apprenticeship to allow sufficient time for building overall competency.

- the development of an employer guide for the apprenticeship, including employment, supervision and training obligations and expectations, to support the capabilities and knowledge of the employer or supervisor and enable the apprentice to safely attain the standards of skills and knowledge required for agricultural occupations.
- It may also be useful to develop specialist upskilling Skill Sets to promote ongoing skills development.

The above activities are within the remit of Skills Insight, which is subject to stakeholder support and project funding approval from DEWR for such activities to take place.

While the training product development activities above are within Skills Insight's remit, implementation, uptake and completion of an ongoing apprenticeship trade program is likely to require a host of other activities, including efforts and resources outside of the direct control of Skills Insight.

Without commitment to, and implementation of, the following actions, any work carried out by Skills Insight to create an appropriate qualification and resources is not likely to lead to a successful Ag Trade Apprenticeship program (note: elements of the activities listed below are already occurring in limited areas of industry):

- Completion of application processes for declaration of a trade status and inclusion in the apprenticeship system in each state and territory (which will require States and Territories to do further work on processes and recognition systems).
- Design and implementation of a campaign, effective enough, to ensure that employers offer a critical mass of apprenticeship opportunities and that sufficient numbers of potential apprentices enrol such that training delivery is viable for one or more RTOs. Such a program would promote the agricultural industry and benefits for:
    - New entrants
    - Employers
    - Supporting agencies and departments
    - Schools and career practitioners
- Development and widespread industry use of coherent and appealing occupational titles and job descriptions that are recognisable in industry and new entrants and people outside the industry.
- Identification and creation of pathways programs that provide accessibility to young people in compulsory education (both rural and urban) and priority cohorts, including First Nations communities, those experiencing learning and occupational barriers, and regional, rural and remote residents.
- Development and promotion of employer/agribusiness human resource management practices resources that support the attraction, retention and capability development plan for the future agricultural business workforce.
- Identification and removal of education and training barriers i.e. training supply challenges faced by all stakeholders.
- Consideration of innovative training delivery models to improve access to timely, safe and industry-led training, which will also improve viability of delivery for RTOs.

- Establishment of partnerships between large/corporate farms, smaller farm enterprises and RTOs, to support delivery of training and workplace components that may not otherwise be available to resource-poor businesses.
- Potential apprentices would need to be convinced of the relevance and effectiveness of an Ag Trade Apprenticeship in meeting their needs. In particular, having work opportunities that are only available to someone who has completed the trade process is a critical element in the attractiveness of all trades, but a feature that appears to be incongruent with work in the agricultural sectors (and many sectors across Australia that do not have a culture of restricted access to particular work functions). This is a critical issue that needs to be considered by industry to target and reserve work functions that the Ag Trade worker would be responsible for, and not available to the general population without first completing an Ag trade Apprenticeship.

Other support mechanisms that could also be considered, subject to suitable feasibility studies include:

- Development of an Attraction, Retention and Capability Development Workforce Strategy that supports the NFF 2030 Roadmap vision at a regional level, including through working collaboratively in an ongoing role to identify regional workforce needs and facilitate solutions.
- Establishment of a national agricultural-specific Group Training Organisation (GTO) to support the trade apprenticeship program through training plans and placements.
- Establishing and then supporting regional workforce and skills committees across the country to provide up to date information about apprenticeships and jobs within an agricultural region.

Recommendation

Skills Insight recommends that work should progress on to the next steps of the development of an Ag Trade Pathway, as outlined above and listed in the table below. Please note that significant investment in this exercise should only proceed after the first three pre-project steps listed below are completed. Commonwealth and State support for a number of agricultural occupations being conferred with trade status is a critical step, without which the work should not proceed.

The executive summary should be read in conjunction with the Conclusion and Recommendations section at the end of this report.

Recommended Actions to Support the Development of Ag Trade/s

Action	Advisory or Guidance Body	Stage	Timeframe
Acceptance of selected recommendations	Agricultural Workforce Forum Skills Ministers/ Senior Responsible Officers	Pre-project	4 months
Finalise principles for policies and procedures for trade recognition	Skills Ministers/ Senior Responsible Officers	Pre-Project	4 months
Approval for designing and implementing a campaign that promotes working in the agricultural industries with a focus on a trade-based apprenticeship	Agricultural Workforce Forum and tripartite member bodies	Pre-Project	4 months
Qualification design and implementation in the VET system	Skills Insight	Stage 1	18 Months
Suitable pathways programs for accessibility	Skills Insight (working with industry employer and employee bodies and RDCs)	Stage 1	18 Months
Identifying and removing education and training delivery barriers	Skills Ministers/ Senior Responsible Officers Skills Insight (working with RTOs)	Stage 1	18 Months
Occupational titles and job descriptions	Agricultural Workforce Forum and tripartite member bodies (potentially working with Skills Insight and/or RDCs)	Stage 1	18 Months

Identification of Ag Trade work	Agricultural Workforce Forum and tripartite member bodies (potentially working with Skills Insight and/or RDCs)	Stage 1	18 months
Further consideration of an Attraction, Retention and Capability Development Workforce Strategy	NFF and tripartite members of the Agricultural Workforce Forum	Stage 1	18 Months
Further consideration of a national agriculture-specific Group Training Organisation	Agricultural Workforce Forum Skills Insight (potential research study)	Stage 1	18 Months
Further consideration of regional workforce and skills committees	Agricultural Workforce Forum (potentially in discussion with RDAs and Skills Insight)	Stage 1	18 Months
Assessment and training resources	Skills Insight	Stage 2 (commences 8-12 months after commencement of Stage 1)	12 months
Employer guides	Skills Insight	Stage 2 (commences 8-12 months after commencement of Stage 1)	12 months
Employer/ agribusiness human resource management practices resources	Industry Leaders	Stage 2 (commences 8-12 months after commencement of Stage 1)	12 months
Apprenticeship partnerships with large and corporate farms to support delivery	Industry and RTOs working with support from Skills Insight	Stage 2 (commences 8-12 months after commencement of Stage 1)	12 months

Introduction

A career in agriculture, such as in animal production, crop production or land management offers individuals the opportunity to become skilled in aspects of agronomy, animal science, digital technologies, mechanical operations, marketing, supply chains, logistics, and business management. It also allows them to have a profound impact on the broader community by contributing to the food security of Australia and being at the forefront of climate-smart solutions and practices.

Career opportunities may be broad, but they are dependent upon primary productivity and ecosystem management on the land. Improving the visibility of on-farm career pathways and enhancing the attractiveness of a career in agriculture are crucial steps in addressing the current workforce challenges faced by this industry, particularly when it comes to attracting new entrants. In turn, successful on-farm operations will lead to high quality opportunities across the supporting sectors.

Research into the feasibility of an Ag Trade Apprenticeship was conducted by Skills Insight Jobs and Skills Council (JSC) via a DEWR approved and funded project following recommendations for an agricultural trade pathway made by the Agricultural Workforce Working Group, the National Agricultural Labour Advisory Committee in the National Agriculture Workforce Strategy, and the National Farmers' Federation in their 2030 Roadmap.

Skills Insight JSC explored the feasibility and viability of an agricultural trade apprenticeship pathway, considering potential implementation dynamics, an example training product model (see Appendix 1), and its potential complementarity with existing VET offerings. At the commencement of the project, a steering committee of employers, industry bodies, unions, training providers and other key parties was established to support the project and process of gathering evidence to ensure project activities were undertaken in a clear and transparent manner. The research methods included a literature review, survey, workshops, and stakeholder interviews and consultations to gather insights, experiences, and supporting evidence. For full details of the methodology used in the research, please see Supplementary Report 1.

Fully costing the development and implementation of an Ag Trade Apprenticeship model was outside the scope of this project. With DEWR approval, development of a suitable qualification and implementation of this into the VET system can be funded through the Jobs and Skills Council Program; however, many of the supporting mechanisms requiring efforts and resources from non-JSC stakeholders have not been costed and would be difficult – but certainly not impossible – to fund and deliver.

Background

In their 2030 Roadmap, published in 2018, the National Farmers' Federation (NFF) stated that Australian agriculture faced an immediate labour shortfall of over 101,000 full-time equivalent workers. They identified the need for a clear career pathway to attract workers and develop their skills and proposed a trade apprenticeship pathway under Pillar 4.1.3: to 'Establish a nationally consistent, "trade-equivalent" job brand for skilled farm workers'.

In the National Agriculture Workforce Strategy (2020), the National Agricultural Labour Advisory Committee reinforced this call with a recommendation 'to develop a flagship AgriFood apprenticeship and traineeship scheme with training providers. The scheme should address issues of

employer demand and allow flexibility for employers such as the sharing of apprentices and/or trainees among small to medium businesses.'

In September 2022, the Minister for Agriculture, Fisheries and Forestry, Senator the Hon Murray Watt, established the Agricultural Workforce Working Group (the Working Group) at the Jobs and Skills Summit. The Working Group included representatives from employer groups, unions and the Australian Government and focused on finding solutions to workforce issues in the agriculture and processing sectors, including skilling, attracting, retaining and protecting workers. The Hon Murray Watt stated that, 'A key priority of the Working Group has been to identify opportunities to uplift capability of workers and employers in agriculture.'

In 2023, members of the Working Group endorsed a submission to Skills Ministers and Skills Insight advocating for enhanced training options and opportunities for current and prospective workers in agriculture, including through the establishment of an agricultural trade apprenticeship.

Why a trade apprenticeship?

A new trade-based occupation, delivered through an apprenticeship, may deliver better occupational outcomes for the agricultural industry. Australian agriculture is experiencing labour and skills shortages at the same time as it is becoming increasingly complex, and so requires access to, and the capacity for developing, highly trained, specialised workers.

While the industry currently has access to graduates of non-trade traineeship programs (which are typically of shorter duration than trade apprenticeships), evidence suggests that industries that support occupations with declared trade status enhance business productivity and workforce outcomes.

Trade occupations in Australia are usually associated with declared skilled trade or historic craft job roles. They are distinguished from other types of occupations primarily by the requirement that the work must be performed by workers that have graduated from a formal vocational education and training (VET) apprenticeship, which includes practical, on-the-job learning to develop trade-specific skills supervised through a mandated, state governed trade program. These skills are typically hands-on and practical in nature, requiring proficiency in using tools, equipment, and techniques relevant to the trade and conversely require high levels of technical knowledge usually not able solely to be learned on the job.

Trade occupations, typically associated with sectors such as construction, plumbing, and electrical work, are widely recognised and valued within their respective industries and by consumers for the specialised skills and expertise they contribute to the workforce. The delivery of skills and knowledge through trade apprenticeships is tailored to industry requirements, meaning qualified tradespeople are often in high demand and may benefit from greater opportunities for career advancement, job security, and competitive wages.

In recognised trade apprenticeships, employers and workplace supervisors play key roles in training and ensuring the quality of apprentices learning outcomes. Their influence can be through training instruction, learner experience and the supervision provided in the workplace as part of the on-the-job component of the training.

The proposal for an Ag Trade Apprenticeship reflects the nature of the work undertaken on farms, its increasing requirement for technical and digital capabilities, and the potential for positive

outcomes for industry and workers alike. This research project explores the perceived benefits of, and challenges in, developing a trade apprenticeship, including:

- attracting, retaining and developing a skilled workforce to drive business objectives
- establishing a recognised career pathway for on-farm workers and managers
- improving language, literacy and numeracy skills for both employers and staff to use digital technology or analyse the information generated by such technology
- targeted or industry specific training design, delivery format and curriculum content for industry-driven on the job training (formal and informal) (train the trainer model)
- skills development and information transfer (learning principles, planning, delivery) both on the job and formal setting
- recognition of the value and opportunity to develop existing staff resources through internal recruitment and upskilling strategies to support workforce development
- securing ongoing access and development of well-trained experts to support the capacity of the industry into the future
- committing to developing and maintaining a workplace culture that values work health and safety
- designing ways to develop the right people and attribute skills (communication, lateral thinking, problem solving and work ready personality attributes) in the workplace
- continuing to develop personal professional capability development and leadership attributes
- strategy and business planning to improve profitability
- supporting skills and training in regional, rural and remote areas.

Overview of an Apprenticeship

Apprenticeships and traineeships are both types of Australian Apprenticeships and are structured training arrangements that combine on-the-job training and work experience while in paid employment, with formal off-the-job training with a registered training organisation (RTO). They are structured around a two-way exchange of value. Participants enhance their skills, gain workplace experience, earn a regular income, and have the potential to secure ongoing employment upon completion of their qualification. Employers benefit from the participant's skilled labour, and the opportunity to provide specific training and experience, potentially hiring them upon completion of their qualification.

Australia has a national apprenticeship system with responsibility for industrial arrangements, while the declaration of vocational training orders resides with the States and Territories. These jurisdictions govern the apprenticeship system through their relevant Acts and are responsible for funding the delivery of training through their public providers and respective training markets. The Commonwealth provides co-funding support for this training through the National Skills Agreement.

Apprenticeships are usually for a trade occupation at Certificate III-level and often take three to four years to complete full-time. Most traineeships are non-trades and take 12-24 months full-time. However, a collation of policies and processes used to declare trade apprenticeships in each State or Territory identified a lack of clear information, while there are indications that differentiations relate more to employment and funding arrangements than to the nature of the occupation.

At a practical level, an apprenticeship should be a more comprehensive credential than a traineeship, with the apprentice learning more than the skills which a trainee acquires, and developing other important skills which may be peripheral but no less important to core business. An apprenticeship may have greater recognition and 'prestige' in comparison with a traineeship, mainly because it covers work that can only be carried out by a trade qualified person. This results in a higher hourly rate of pay that closely aligns with all trade level occupations.

Establishing an Ag Trade Apprenticeship with the qualities of traditional apprenticeships may be a crucial step toward improving the perceptions and status of the agricultural industry and enhancing its attractiveness by providing the apprentice with certainty and recognition.

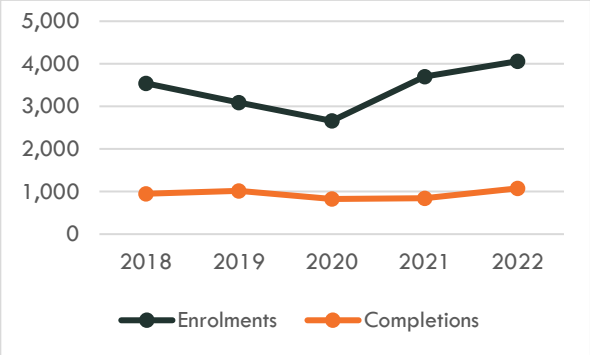
Current VET Training Delivery and Student Outcomes

In 2022, 75% of trade qualification completers across all industries serviced by the VET system were subsequently employed in the occupational group linked to their training, compared with 34% of non-trade apprenticeship and traineeship graduates. This suggests that enrolments in trade pathways have a greater likelihood of generating employment outcomes for learners in the occupation chosen.

The current VET qualification *Certificate III in Agriculture*, which can be delivered as a traineeship and a non-traineeship (but not as a trade apprenticeship), delivers industry-determined learning outcomes for participants. The qualification describes the skills and knowledge for general job roles in agriculture, including cropping farmhand and livestock husbandry worker. In 2022, there were 4,061 enrolments in this qualification. These enrolments were higher than in any year since 2016.

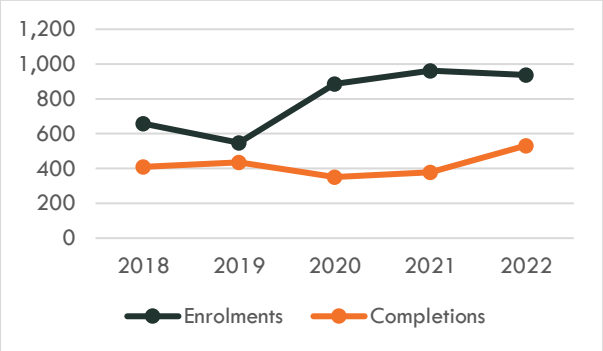
The available data from National Centre for Vocational Education Research (NCVER) does not present current completion rates due to challenges accounting for withdrawals and the variable amount of time taken to complete training. However, the data shows that a greater proportion of *trainees* graduate (Table 2) relative to the total proportion of *all* learners in the *Certificate III in Agriculture* (Table 1).

Table 1: Certificate III in Agriculture enrolments and completions



Source: NCVER (2023) VOCSTATS: a) TVA program enrolments 2015-2022; b) TVA program completions 2015-2022 (n.b. inclusive of enrolments/completions in superseded qualifications)

Table 2: Certificate III in Agriculture traineeship commencements and completions



Source: NCVER (2023) VOCSTATS: Apprentices and trainees - June 2023 (n.b. inclusive of enrolments/completions in superseded qualifications)

The data clearly suggests that there is greater skill acquisition and better training outcomes when more structured approaches are used in VET, and that learners in agriculture respond more positively to a traineeship than a non-traineeship. Based on this data and the higher rates of trade apprenticeship completions in general, it seems likely an Ag Trade Apprenticeship could raise overall completion rates in agriculture-related VET; however, there could be significant risks to the viability of delivering current qualifications, including the *Certificate III in Agriculture*, if a new trade

qualification is developed. Such a qualification would need to demonstrate complementarity with current offerings, both in terms of careers pathway mapping and viability for training providers. These issues will have to be considered carefully so that the potential development of an Ag Trade Apprenticeship does not present a risk to established training programs.

Employers use and views of the VET system

The potential development of an Ag Trade Apprenticeship would need to understand how employers in agriculture currently engage with VET and other training options, including why and how, to then consider implementation challenges and opportunities.

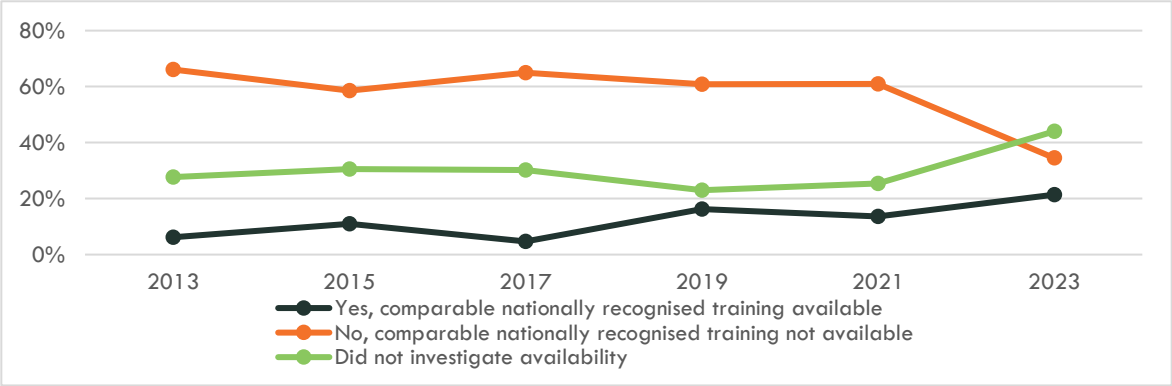
The choice of training type and provider is not always within employers' full control, with research detailing that many encounter challenges in accessing RTOs, especially in rural, regional and remote areas, and because of time, capacity, finance, and VET knowledge limitations (Shah 2017). Perhaps that explains why employers tended to be less concerned about who provided training, and whether it was through VET, than on the perceived relevance and convenience of the training in meeting their needs (White, De Silva & Rittie 2018).

Published data and evidence suggests that employees gaining 'legitimacy' through a nationally recognised qualification was not necessarily a motivating factor for employers' engagement with VET – except where there were licensing and regulatory requirements – though some appreciated the career pathways that were articulated and unlocked through formal participation (Bowman & Callan 2021).

A key to the lack of use of VET is that training is often not available for a given area of skills in the right place and at the right time. Although a likely scenario, further research is required to establish whether a persistent lack of nationally recognised training options is causing the growing trend of not investigating its availability. The increasing use of backpacker and other temporary labour may also be contributing to this trend.

What has been established is that of agriculture, forestry and fishing employers using unaccredited (non-VET training) training in 2023, 44% did not feel the need to investigate the availability of comparable nationally recognised training, while 21% were aware of its availability but chose not to pursue it. It is recognised that fisheries and forestry industries skew these figures given lack of available national VET training delivery in these sectors.

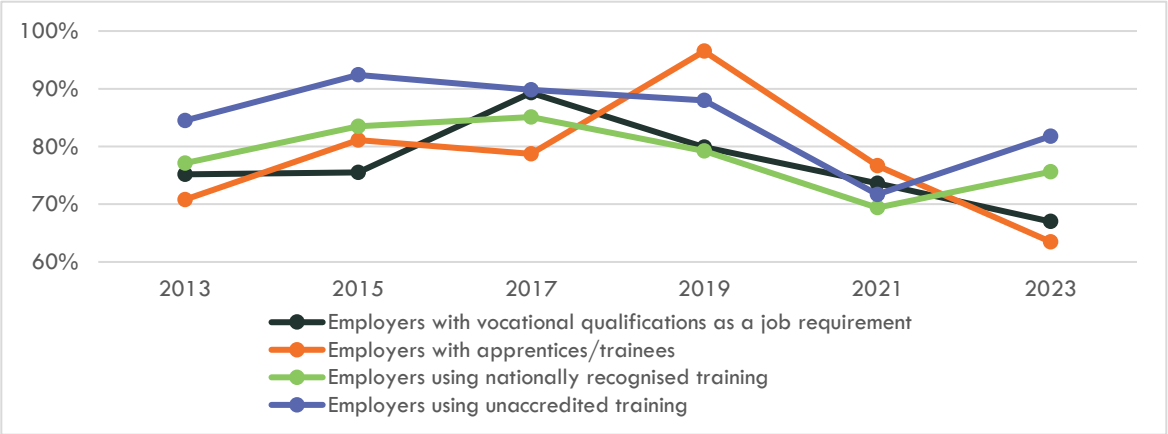
Table 3: Comparable nationally recognised training available when unaccredited training used



Source: NCVER (2023) Employers' use and views of the VET system 2023: data tables; Table 20

Despite less than half of agriculture, forestry and fishing employers using nationally recognised training, there is evidence that exposure to VET leads to a high regard for the system. In 2023, 76% of employers using nationally recognised training were satisfied with it as a way of meeting their skill needs.

Table 4: Employers who are satisfied with training as a way of meeting their skill needs



Source: NCVER (2023) Employers' use and views of the VET system 2023: data tables; Table 8

This data, taken with other intelligence gathered during this project, supports findings from previous work that when employers appreciate the development of employees, and benefit from increased workplace efficiency and productivity, they are more likely to continue engaging with the VET system (Skills Impact 2022). Exposure to nationally recognised training is contingent upon various factors, including if and how it is promoted, where it is available, the expected relevance and outcomes of the training, industry culture and attitudes to formal education, and whether it provides an industry 'ticket'. These factors have significant implications for the success of an Ag Trade Apprenticeship.

Project Research

To research the potential feasibility of an Ag Trade Apprenticeship, Skills Insight conducted consultation workshops, including 10 face-to-face workshops in major agricultural production locations across each state and territory and three online workshops. Each workshop included an overview of the project and an abbreviated workforce functional analysis (WFA) in broadacre cropping (BAC), dairy production (DRY) or livestock production (LSK). In WFAs, participants were asked to identify and/or confirm the typical job functions undertaken by potential trade level workers in these sectors (see Supplementary Report 2). The workshops also included discussions to consider core and elective units for a possible Ag Trade qualification and the potential benefits, challenges and resources required for an Ag Trade Apprenticeship with respect to employers, potential apprentices, registered training organisations (RTOs), State and Territory governments, and others.

Stakeholder input was also collected via a survey, open to stakeholders for two months, on the potential benefits of an Ag Trade Apprenticeship, as well as considerations around the dynamics that must be addressed for long-term success of such a program.

Skills Insight also conducted individual interviews with employers to gain further insights into the requirements of a fit-for-purpose agricultural trade apprenticeship.

A Skills Insight Guide to Recognising Apprenticeships and Traineeships document is being drafted to outline the various processes for establishing a trade apprenticeship qualification, including funding implications, in each of the states and territories. Skills Insight is continuing to collaborate with each state and territory to outline these processes.

As a final stage, the project focussed on identifying what a potential Ag Trade Apprenticeship model could look like for the industry and an example qualification was developed and made available for feedback (See Appendix 1).

Detailed information on the research can be found in the following Supplementary Reports:

1. Detailed Research Methodology and Key Data
2. Ag Trade Apprenticeship Example Qualification Research and Testing

The term Ag Trade Apprenticeship and apprenticeship are used interchangeably in this section.

Survey respondents

The wide distribution of the survey invitation facilitated responses from 81 potential apprentice employers and 49 potential training providers of the Ag Trade Apprenticeship. The following tables profile these respondents across multiple dimensions.

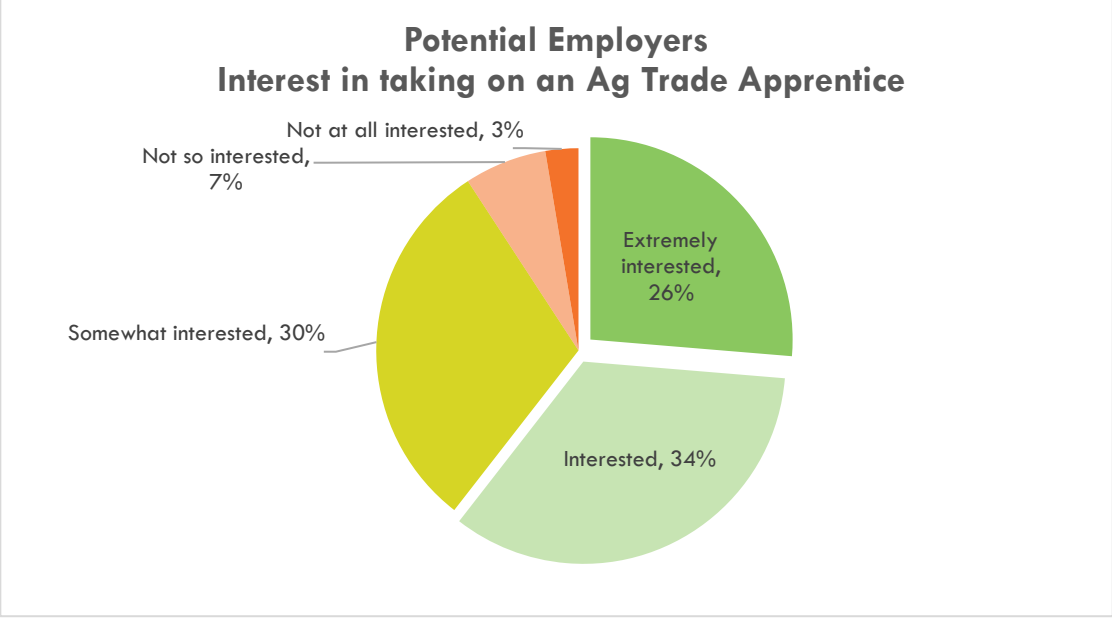
ORGANISATION TYPE	Number of interviews
Employer who may want to recruit an apprenticeship graduate	22
Employer who may want to take on an apprentice to learn in the workplace	59
Total - Potential Employers	**81**
RTO - Agricultural College	4
RTO - Enterprise	2

RTO - Industry Association	10
RTO - Private	16
RTO - TAFE	17
Total - Potential Training Providers	**49**

LOCATION	Potential Employers	Potential Training Providers
QLD	19	17
VIC	17	20
NSW	17	14
WA	22	6
SA	15	8
NT	4	5
TAS	5	3
ACT	0	2
National	4	5
TOTAL	**81**	**49**

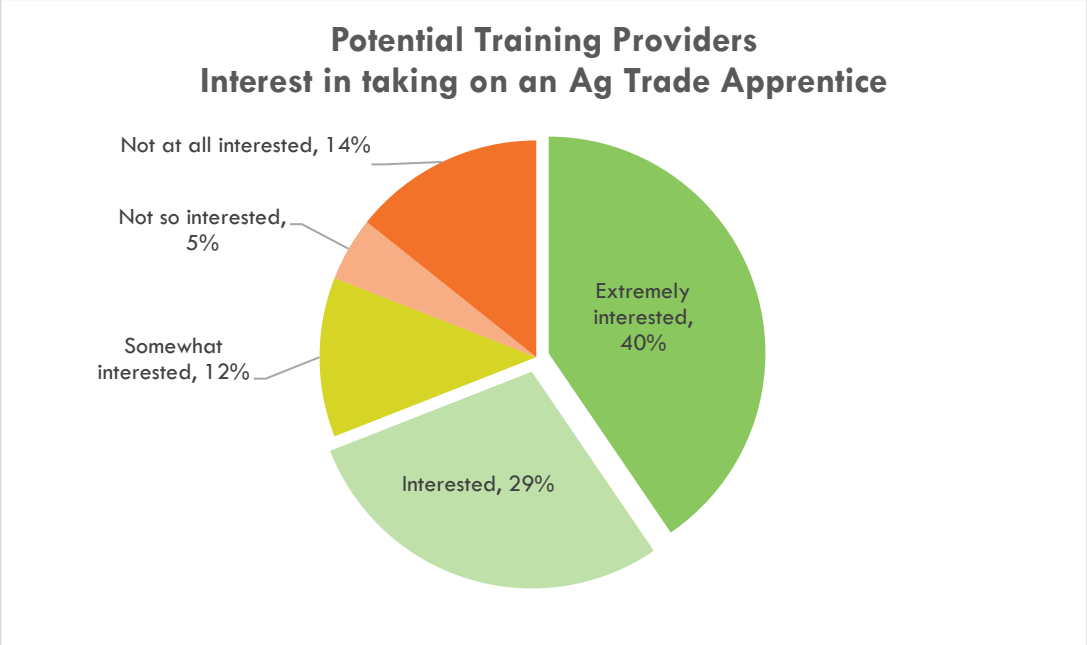
SECTOR COVERAGE (Individual Organisations may cover multiple sectors)	Potential Employer	Potential Training Providers
Broadacre	49	20
Livestock Production	47	28
Dairy Production	10	16
Horticulture	14	4
No particular type of agriculture	12	11
Other	1	9
TOTAL	**81**	**49**

Employers



In the industry survey, 60% indicated that they were interested in potentially taking on an Ag Trade apprentice. Significantly, only 3% were not at all interested in potentially taking on an apprentice. This level suggests a broad base of potential employers for Ag Trade apprentices.

Training Providers



A total of 69% of training providers were interested in offering an Ag Trade Apprenticeship, with only 14% not at all interested. This reasonably high level of interest is an important factor in assessing the feasibility of an apprenticeship.

Identified Benefits

The research demonstrates a belief among industry participants, including employers, unions and training organisations, that there are significant sector benefits that may stem from an Ag Trade Apprenticeship. These findings show that the foundations for support for an Ag Trade Apprenticeship exist, if the appropriate design, support and promotional materials and processes can be developed.

Positive potential benefits were identified through four key groups:

1. Potential employers who are very or extremely interested in taking on an Ag Trade Apprentice
2. Potential employers who are not so interested in taking on an Ag Trade Apprentice
3. Potential training providers who are interested in offering an Ag Trade Apprenticeship
4. Potential training providers who are not interested in offering an Ag Trade Apprenticeship

As would be expected, group 4 showed the lowest support for potential benefits, but even within this group, the lowest support for a benefit was 55% (providing well-rounded skills and specialist skills). The results, backed up by subsequent interviews indicate strong belief that an Ag Trade Apprenticeship would produce broad benefits for the industry.

Potential benefits covered industry development, skills development and labour supply. Exceptionally high support (at least two groups over 90% support) were identified as:

- Increasing the general professionalism of the industry
- Producing highly skilled and productive workers
- Increasing the appeal of the Ag industry as a place to work
- Attracting new entrants into Ag Industry Careers.

The data also highlights some differences between employers and training organisations. For example, a higher percentage of training organisations (97%) consider 'Improving agricultural practices' as an important potential benefit compared to employers (80%). This difference may reflect the different priorities and perspectives of these two stakeholder groups, with training organisations potentially placing a greater emphasis on the broader industry-level benefits of an Ag Trade Apprenticeship.

The high ratings of attributes such as skill development, professionalism, and improved agricultural practices by employers and training organisations who are interested in an apprenticeship suggest that the program is seen as a valuable tool for enhancing the overall quality and sustainability of the agricultural industry. While still showing positive support, lower ratings by those with limited or no interest highlight the need for targeted efforts to demonstrate the value and relevance of an apprenticeship to these stakeholder groups.

In the context of developing a skilled agricultural workforce, the data indicates that the apprenticeship model is widely seen as valuable, particularly for its comprehensive approach to skill development and emphasis on producing well-rounded, autonomous employees. The data also highlights the need to address the lower interest in digital literacy and data management skills among employers not currently interested in apprenticeships, as these skills are becoming increasingly crucial in the evolving agriculture industry.

A notable finding is the high importance ratings assigned by interested employers (93%) and training organisations (93%) for 'increasing the appeal of the ag industry as a place to work.' Similarly, these groups also highly rate the ability of apprenticeships to 'attract new entrants into ag industry careers'. These findings are consistent with those reported by Cosby et al (2024), in which growers expressed strong support for an Ag Trade Apprenticeship for similar reasons.

A substantial proportion of employers, including those who are highly interested in apprenticeships (85%) and those with little to no interest (83%), concur that skilled workers have the potential to significantly contribute to increased farm productivity and profitability.

Furthermore, 85% of employers with a keen interest in apprenticeships and 80% of those with minimal interest recognise the value in retaining skilled apprentices as long-term employees, indicating a desire to capitalise on their expertise and contributions over an extended period.

The data indicates that employers are more concerned about the long-term value an apprentice can bring to their organisation. The potential benefit of 'Having an apprentice worker that is contracted for 3 - 4 years' received a higher level of agreement among employers who are very or extremely interested in taking on an apprentice (57%), compared to those with very little or no interest (40%).

This difference suggests that employers who are actively considering apprenticeships may place a higher value on the stability and commitment that comes with having an apprentice contracted for

an extended period, allowing them to invest in the apprentice's development and benefit from their growing skills and contributions over time.

The consultation results and analysis underscore the critical role of employer partnerships in the success of apprenticeship programs from the perspective of training providers. It is important to recognise that training providers need to maintain financial viability and access to trainers and resources in the short and long term. Government funding plays a significant role in the decision-making process of training providers, as it can help offset the costs associated with delivering the apprenticeship program.

This is reflected in the survey results, with 79% of very or extremely interested training organisations and 50% of those with limited or no interest considering 'Potential additional government funding for apprenticeship training and assessment' as very or extremely important.

The data also shows that 72% of training organisations that are interested in offering an apprenticeship consider 'The nature of apprenticeship training work may be attractive to trainers and assessors' as a very or extremely important benefit, compared to only 35% of those with no interest. This suggests that training providers who are keen on offering apprenticeships see the unique nature of apprenticeship training work as a potential draw for attracting and retaining skilled trainers and assessors. Other results indicate that training providers recognise the long-term potential of apprenticeship programs in creating access of qualified workers who could transition into training and assessment roles within the industry or training organisations themselves.

Identified Challenges

Employers identified main challenges as their ability to adequately support the training and transfer of skills to apprenticeships, with additional concerns about providing accommodation and other support for the longer-term arrangements needed for apprentices. Generally, there appeared to be an understanding and acceptance of the challenges that would be faced, and a desire to overcome those challenges, rather than see them as barriers.

A key challenge and concern will be ensuring the apprenticeship is relevant to different types of agriculture. Training providers were generally more confident than employers that these challenges can be addressed, indicating the need to adequately address the diverse needs and specialisations within the agriculture sector and communicate this broad coverage effectively.

Ensuring alignment between on-farm and institution-based learning, providing input into subjects and skills covered, offering a wide range of skill experiences, and ensuring relevance to specific workplace requirements were identified as crucial factors. Promoting collaboration between employers and training providers could enhance the perceived relevance of an Ag Trade Apprenticeship and encourage greater employer participation in the agricultural sector.

In-depth interviews highlighted specific challenges to be addressed, including:

- The duration of the Ag Trade Apprenticeship should be tailored to the evolving needs of the industry, balancing skill development with adapting to technological advancements.
- The apprentice should be competent in the main forms of technology used in agriculture and can quickly master new technologies.
- The apprentice should have developed strong communication skills, including email etiquette and workplace communication.

- The apprentice should have mental resilience training to prepare them for challenging situations.

Research undertaken by the Productivity Commission in 2020 notes that employers would like greater assurances that their investment in an apprenticeship will provide longer-term rewards (this includes staying with the employer over the apprenticeship and after graduation). ('Australian Apprentices Background Paper,' n.d.). The Agribusiness sector expressed similar concerns during this project.

The survey data highlights that the combination of on-farm and school-based learning is crucial. Notably, 60% of highly interested employers agree that 'The employer and the training provider agreeing on the subjects (elective units) to be included in the apprenticeship' is a potential challenge, compared to 51% of those with little interest. This suggests that employers actively considering apprenticeships place greater importance on aligning the curriculum with their specific needs.

This is connected to the finding that 59% of employers who are interested in taking on an apprentice and 63% of those with less interest agree that 'Having the time to supervise and train an apprentice especially during busy periods' is a potential challenge. This is consistent with research undertaken by the Productivity Commission which concluded that outside of wages, employers cited supervision costs as the most expensive cost of having an apprentice working in their business.

Further, 35% of highly interested employers and 43% of those with little interest agree that 'Employers being able to provide the apprentice with experience in a wide range of task/skills' is a potential challenge, recognising the importance of providing a comprehensive learning experience. Further discussions will be needed with employer bodies and unions about whether this is a realistic level of concern, which may be dependent on the final design of the apprenticeship.

Respondents in the in-depth interviews echoed similar themes and some were disappointed in the past lack of flexibility shown by training providers in accommodating farm workloads.

From a training provider perspective, and potentially one of the most significant challenges identified is 'Having trainers and assessors to deliver the qualification,' with 93% of interested training organisations and 80% of those with no interest agreeing that this is a potential challenge. This aligns with the persistent challenge of finding and retaining quality staff faced by training organisations.

Cosby et al (2024) also found that potential training organisations perceive the scarcity of suitability trained, knowledgeable, and experienced trainers as a key issue to providing an Ag Trade Apprenticeship qualification.

The data also shows that 66% of interested training organisations and 55% of those with no interest agree that 'Insufficient resources to develop training and assessment materials' is a potential challenge, underscoring the resource constraints faced by training providers.

The importance of Marketing

The feasibility of an Ag Trade Pathway is seen by industry stakeholders as being highly dependent on marketing across a spectrum of themes, including:

- The desirability of Ag careers
- The availability of Ag careers

- Attraction to training and undertaking the apprenticeship.

The prevalence of negative perceptions of careers in agriculture among the broader population and the difficulties that these present in attracting apprentices has been extensively researched and is an accepted industry issue.

One of the key issues is attracting apprentices despite lower initial pay rates. Another challenge is attracting apprentices in general, with training organisations expressing the highest level of concern.

There was widespread agreement amongst the employers who participated in the in-depth interviews and in the workshops that they do not expect to pay apprentices a lower wage than others who are undertaking similar work.

Attracting training organisations to undertake formal training and assessment is perceived as a concern, with training organisations themselves express higher levels of apprehension potentially based on their past experience in investing in training delivery that the enrolment numbers did not support, as well as perceptions that employers will not be supportive of the apprenticeship in practice.

Tailored marketing strategies could be developed to target these concerns. Emphasising the long-term benefits of Ag Trade Apprenticeships and exploring incentive structures could help stimulate active support among employers and learners. Highlighting the potential for career growth, skill development, and increased earning potential over time could make an Ag Trade Apprenticeship more attractive to potential candidates. However, this logic only applies if the work that Ag Tradies perform is restricted to the Ag Trades, recognising the specialist skills, increased productivity and improved safety of appropriately trained workers.

Training providers, regardless of their level of interest in offering the apprenticeship, recognise the need for adequate resources to effectively market the program and attract enrolments. They identified 'Insufficient local employers to take on apprentices,' as a viability concern, with 55% of interested training organisations and 35% of those with no interest agreeing. This finding relates to the critical role of employer partnerships in the success of apprenticeship programs, as noted from other data.

Example Qualification Design

Qualifications in the vocational education and training (VET) sector are designed to reflect the knowledge and skills required to successfully perform a job role/s to the standard required by industry. Training Package qualifications typically include:

- a qualification description that describes the job role/s and title/s covered, their level of autonomy, skill level, broad responsibilities, workplace context and specialisations provided by the qualification.
- entry requirements (if any)
- packaging rules that specify the number of units of competency required to achieve the qualification, including the mandatory (core) units and the elective units, as well as advice on the units required for a specialisation.

Units of competency (sometimes called occupational training standards) describe a job function/task, and include the knowledge and skills required to perform the function/task to the standard required

in the workplace. They are used by Registered Training Organisations (RTOs) to develop accredited training and assessment programs.

The current *AHC30122 Certificate III in Agriculture* delivers industry determined learning outcomes to enable workers to secure immediate employment outcomes. Feedback previously received and again recorded in this project indicate that a more in-depth qualification is required to create career pathways, and improve worker safety, productivity and skill portability.

An example qualification was a key part of the process to engage stakeholders in completing the survey and interview process used in the project methodology. During consultation workshops, occupation roles and tasks were identified by key industry and employer stakeholders (the abbreviated Workforce Functional Analysis outlined in the research methodology). This was the basis for designing an example qualification that can be delivered via an apprenticeship to develop highly skilled and autonomous trade level workers in Broadacre Cropping, Dairy Production and Livestock Production sectors.

During the workshops, the participants identified 20 core work tasks that span across all three industry sectors. This resulted in an example qualification having 20 core units plus more prescriptive requirements for the choice of electives to ensure graduates have the sector specific skills needed by industry.

Prior to applying for declaration and inclusion in the apprenticeship system in each state and territory, the qualification would need to be developed, nationally endorsed and state or territory funded.

Further information regarding the findings of the Workforce Function Analysis to develop the example qualification can be found in supplementary report 2, *Ag Trade Apprenticeship Example Qualification Research and Testing.*

Conclusion and Recommendations

The evidence gathered for this report suggests that the creation of an Ag Trade Apprenticeship could be feasible and attractive for potential learners and host employers because of the positive outcomes observed from trade apprenticeships generally. However, the inclination of industry, employers, RTOs, and learners to value a newly created trade-style job brand will be contingent upon numerous factors; for example, peoples' choice of whether to enrol will be impacted by perceptions of industry careers (an issue beyond the scope of the project) and industry offerings for apprentice positions as well as demand for VET learners and graduates.

Potential apprentices would need to be convinced of the relevance and effectiveness of an Ag Trade Apprenticeship in meeting their needs. In particular, having work opportunities that are only available to someone who has completed the trade process is a critical element in the attractiveness of all trades, but a feature that appears to be incongruent with work in the agricultural sectors (and many sectors across Australia that do not have a culture of restricted access to particular work functions).

Employers would also need to be convinced of the relevance and effectiveness of an Ag Trade Apprenticeship in meeting their needs. A new trade apprenticeship would necessitate leadership to build buy-in from industry and potential learners based on its perceived relevance, recognition, transferability, availability, and accessibility. Key to this would be a well-funded marketing campaign promoting the trade brand and its link to enhanced occupational and industry outcomes.

Generally, employers' choice of training types reflects their specific business requirements, including resource and time limitations (e.g. relative to peak harvest seasons). Implementation support would be required for those with capacity challenges and limited knowledge of VET, especially in small and medium businesses. This may include supporting employers in understanding their obligations to apprentices, as well as careful scheduling of on- and off-the-job training components. This will be a challenge as the level of implementation support required appears to be quite high and a resource to provide this is not readily apparent (to the degree required) in the VET sector.

An additional complication with the implementation of a new trade is the core apprenticeship system requirement that apprentices in workplace are supervised by qualified trades people in the same trade. A work around would need to be determined in conjunction with each jurisdiction to ensure suitable supervision of trade work, given that qualified trade workers currently do not exist to support an apprentice program.

Promotional activities would need to target both those familiar and unfamiliar with the VET system, including employers who actively choose other training options. Businesses would need to be provided with reasons why they would engage with VET, and this may include campaigns to showcase the high value assigned to it by employers who already participate in the system.

From a training provider perspective, ensuring any new qualification complements rather than replaces existing qualifications is a key concern due to the multitude of already-successful programs being delivered. Training organisations interested in delivering an Ag Trade Apprenticeship would likely experience difficulties recruiting skilled and knowledgeable trainers and assessors to deliver the qualification, especially in regional, rural and remote areas with compounding issues such as housing shortages. The viability of delivering qualifications in thin markets is a key concern for training providers, and there will be limited supply if the demand for delivery of an Ag Trade Apprenticeship is not clearly signalled. Solutions would need to involve encouraging employer and training provider relationships and exploring the possibility of establishing an agriculture-specific Group Training Organisation to directly employ apprentices and then place them with suitable host employers for the necessary on-the-job training.

Implementation planning could involve:

- national leadership and partnerships to promote an Ag Trade Apprenticeship
- creating a value proposition for employers to be involved in the VET apprenticeship system
- clearly articulating skilling pathways into agriculture and career development mapping
- creating support structures for employers to train apprentices on the job, including resources to inform employers of their obligations to apprentices, and support for industry experts to deliver training in a supervisory role
- creating a training product solution suitable for declaration and inclusion in the apprenticeship system in every state and territory
- developing resources for training providers, trainers, assessors and employers to improve training and assessment practices, including in-workplace assessment
- establishing mechanisms to monitor employer and learner outcomes from training delivery, including identifying where RTOs are delivering positive outcomes, to identify opportunities to strengthen the quality of training delivery and pathways
- ensuring that work covered in the trade program was work reserved in some fashion for trade qualified workers. This is a key feature of most trade programs and attractiveness to

candidates will be limited without identification of the work that only can be done by those people holding trade certification.

Potential implementation of an Ag Trade Apprenticeship would be concurrent to, and collaborative with, the strategic review of Australia's apprenticeship incentive system, announced by the Australian Government in February 2024. Furthermore, the Qualification Reform Design Group's proposed qualifications reform model (as per their March 2024 update) would guide the creation of any future apprenticeship qualification. Specifically, an Ag Trade Apprenticeship would be designed as a Purpose 1 qualification, which leads to a specific occupation in reflection of the level of specificity necessary for safety or licencing requirements and maintains the integrity of the trades. This would form part of a career development pathway, with the existing Certificate III in Agriculture, which can be delivered as a traineeship, being a Purpose 2 qualification (preparing learners for multiple, related occupations while retaining industry relevance), and the Certificate II in Rural Operations being a Purpose 3 qualification in recognition that it develops cross-sectoral or foundation skills and knowledge which may be applied across industries, or lead to tertiary education and training pathways. A review of the Certificate II in Rural Operations by Skills Insight is currently underway to ensure it is fit for purpose to deliver foundational skills and enable clear occupational and training pathways.

On a systemic level, there may be challenges in declaring a new trade apprenticeship within the VET system, and an associated trade occupation, i.e. restricted occupational work, which would require further consideration. There would also need to be buy-in from State Training Authorities, which are government departments responsible for registering and administering apprenticeship and traineeship training contracts. They also provide advice and support to all parties throughout the Australian Apprenticeship process.

On a government and workforce planning level, there may be benefits in a new occupation being created in the Australian and New Zealand Standard Classification of Occupations (ANZSCO); however, the Australian Bureau of Statistics is currently completing a full review of the ANZSCO and there may be a significant period of time before the next review is conducted such that any new occupation could be created. Without a distinct ANZSCO occupation, there would be challenges in promoting the trade occupation brand and ensuring its recognition in national datasets, such as the Census and Labour Force Survey, which impact on national skills priorities, including training and education subsides and funding. There may also be broad resistance to creating a new trade style job brand in agriculture because of its potential implications for catalysing numerous similar requests from other industries.

Such challenges are not likely to be insurmountable but will require considerable planning, foresight and government support for an Ag Trade Apprenticeship to be a success. A key ingredient will be developing partnerships and collaboration to address systemic barriers experienced by learners, RTOs and employers, which would likely require the industry stewardship facilitated by Skills Insight (which includes potential for undertaking a range of implementation, promotion and monitoring activities), the oversight and leadership of the National Farmers' Federation, as well as support from the Australian Government. Given that there are multiple key stakeholders in the potential development of an Ag Trade Apprenticeship, a risk management plan must be developed to anticipate and respond to challenges that arise in this complex environment. Without such a strategy in place, an Ag Trade Apprenticeship may not gain traction, potentially causing reputational damage to key stakeholders and the industry generally.

A multi-pronged approach, with training product development, training and assessment resource development, careers promotion activities to attract young people and other cohorts, promotion of the trade-style occupation brand, employer support resources, and incentives from the Australian Government would enable an Ag Trade Apprenticeship to have the greatest chance of helping to alleviate the skills and labour shortages being experienced in agriculture, build the future workforce, provide people with access to secure, fairly paid jobs, and remove barriers to employment.

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Appendix 1

Example agriculture trade qualification

Certificate III in Agricultural Production

Qualification Description

This qualification describes the skills and knowledge for trade level roles in Agriculture, working in Broadacre Cropping, Dairy Production and Livestock Production. Job titles may include:

- Agriculturalist
- Agricultural tradesperson
- Agricultural technician
- Agricultural specialist
- Agricultural contractor

Individuals with this qualification work autonomously, applying a broad range of knowledge and skills in varied contexts to undertake skilled tasks. They interpret information, exercise judgement and discretion to plan and implement work tasks, and to respond to contingencies and solve problems. They may also influence and train other workers.

The qualification requires a specialisation in one or more of the following sectors:

- Broadacre production
- Dairy Production
- Livestock production

This qualification is suitable for an Australian Apprenticeship pathway.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded this qualification, competency in one of the six occupational options must be achieved.

Option 1: Agriculturalist specialising in broadacre cropping

For the award of the **Certificate III in Agricultural Production (Broadacre Cropping**) a minimum of **34 units** are to be completed as follows:

- 20 core units
- 14 elective units

Electives are to be selected as follows:

- 2 units from Group A
- 8 units in Group B

- 1 welding unit from Group E (*AUMGTW003 Perform manual metal arc welding* or *AUMGTW005 Perform gas metal are welding*)
- 3 units can be selected from any units in Groups A to E (not already selected)
- up to 2 units from any currently endorsed Training Package of accredited course that contributes to the vocational outcomes of the qualification
- up to 1 unit can be a subject from a Higher Education qualification that contributes to the vocational outcomes of the Certificate III in Agricultural Production.

Option 2: Agriculturalist specialising in dairy production

For the award of the **Certificate III in Agricultural Production (Dairy Production)** a minimum of **38 units** are to be completed as follows:

- 20 core units
- 18 elective units

Electives are to be selected as follows:

- 2 units from Group A
- at least 5 Dairy sector units (coded AHCDRY) from Group C
- at least 7 Livestock sector units (coded AHCLSK) from Group D, including:
    - *AHCLSK342 Prepare animal for parturition*
    - *AHCLSK330 Implement procedures for calving*
    - *AHCLSK318 Rear newborn and young livestock*
- 1 welding unit from Group E (*AUMGTW003 Perform manual metal arc welding* or *AUMGTW005 Perform gas metal arc welding*)
- 3 units can be selected from any units in Groups A to E (not already selected)
- up to 2 units from any currently endorsed Training Package of accredited course that contributes to the vocational outcomes of the qualification
- up to 1 unit can be a subject from a Higher Education qualification that contributes to the vocational outcomes of the Certificate III in Agricultural Production.

Option 3: Agriculturalist specialising in livestock production

For the award of the **Certificate III in Agricultural Production (Livestock Production)** a minimum of **35 units** are to be completed as follows:

- 20 core units
- 15 elective units

Electives are to be selected as follows:

- 2 units from Group A
- 8 units in Group D including at least 6 Livestock sector units (coded AHCLSK)
- 1 welding unit from Group E (*AUMGTW003 Perform manual metal arc welding* or *AUMGTW005 Perform gas metal arc welding*)
- 4 units can be selected from any units in Groups A to E (not already selected)
- up to 2 units from any currently endorsed Training Package of accredited course that contributes to the vocational outcomes of the qualification
- up to 1 unit can be a subject from a Higher Education qualification that contributes to the vocational outcomes of the Certificate III in Agricultural Production.

Option 4: Agriculturalist specialising in broadacre cropping and dairy production

For the award of the **Certificate III in Agricultural Production (Broadacre Cropping and Dairy Production)** a minimum of **45 units** are to be completed as follows:

- 20 core units
- 25 elective units

Electives are to be selected as follows:

- 2 units from Group A
- 8 units in Group B
- at least 5 Dairy sector units (coded AHCDRY) from Group C
- at least 7 Livestock sector units (coded AHCLSK) from Group D, including:
    - *AHCLSK342 Prepare animal for parturition*
    - *AHCLSK330 Implement procedures for calving*
    - *AHCLSK318 Rear newborn and young livestock*
- 1 welding unit from Group E (*AUMGTW003 Perform manual metal arc welding* or *AUMGTW005 Perform gas metal arc welding*)
- 2 units can be selected from any units in Groups A to E (not already selected)
- up to 2 units from any currently endorsed Training Package of accredited course that contributes to the vocational outcomes of the qualification
- up to 1 unit can be a subject from a Higher Education qualification that contributes to the vocational outcomes of the Certificate III in Agricultural Production.

Option 5: Agriculturalist specialising in broadacre cropping and livestock production

For the award of the **Certificate III in Agricultural Production (Broadacre Cropping and Livestock Production)** a minimum of **41 units** are to be completed as follows:

- 20 core units
- 21 elective units

Electives are to be selected as follows:

- 2 units from Group A
- 8 units in Group B
- 8 units from Group D including at least 6 Livestock sector units
- 1 welding unit from Group E (*AUMGTW003 Perform manual metal arc welding* or *AUMGTW005 Perform gas metal arc welding*)
- 2 units can be selected from any units in Groups A to E (not already selected)
- up to 2 units from any currently endorsed Training Package of accredited course that contributes to the vocational outcomes of the qualification
- up to 1 unit can be a subject from a Higher Education qualification that contributes to the vocational outcomes of the Certificate III in Agricultural Production.

Option 6: Agriculturalist specialising in dairy production and livestock production

For the award of the **Certificate III in Agricultural Production (Dairy Production and Livestock Production)** a minimum of **41 units** are to be completed as follows:

- 20 core units
- 21 elective units

Electives are to be selected as follows:

- 2 units from Group A
- at least 5 Dairy sector units (coded AHCDRY) from Group C
- at least 7 Livestock sector units (coded AHCLSK) from Group D, including:
    - *AHCLSK342 Prepare animal for parturition*
    - *AHCLSK330 Implement procedures for calving*
    - *AHCLSK318 Rear newborn and young livestock*
    - *AHCLSK307 Euthanase livestock*
- 3 units from Group D not already selected in Group D including:

- *AHCBAC310 Maintain pastures and crops for livestock production*
- 1 welding unit from Group E (*AUMGTW003 Perform manual metal arc welding* or *AUMGTW005 Perform gas metal arc welding*)
- 2 units can be selected from any units in Groups A to E (not already selected)
- up to 2 units from any currently endorsed Training Package of accredited course that contributes to the vocational outcomes of the qualification
- up to 1 unit can be a subject from a Higher Education qualification that contributes to the vocational outcomes of the Certificate III in Agricultural Production.

Core

Suggested units that cover the work functions that trade level agricultural workers typically perform.

#	Unit Code	Unit Title	Unit description
1	AHCWHS402	Maintain workplace health and safety processes	Describes the skills and knowledge required to maintain workplace health and safety processes, including facilitating meetings and documenting actions that relate to the consideration of workplace health and safety issues. **Comment** - *AHCWHS301 Contribute to workplace health and safety processes* was considered but *AHCWHS402* is recommended based on advice that trade level workers will coordinate other workers (e.g., back packers) when required. Another option is to have both units in role.
2	AHCBIO303	Apply biosecurity measures	Describes the skills and knowledge required to interpret and apply control measures in a biosecurity plan to protect a site from the entry and spread of biosecurity threats.
3	AHCPCM305	Implement a plant nutrition program	Describes the skills and knowledge required to implement a plant nutrition program, including preparing for the nutrition program, monitoring and controlling the nutritional requirements of plants, preparing fertilisers and application equipment, applying products to plants, and completing plant nutrition program activities.
4	AHCSOL406	Sample soils and interpret results	Describes the skills and knowledge required to prepare for soil sampling, collect soil samples and interpret test results.
5	AHCSOL505	Monitor and manage soils for production	Describes the skills and knowledge required to research soil information, apply soil testing information to production or management plan, develop and monitor soil amendment practices, review and document soil management plan.
6	MSS015042	Measure and report on carbon footprint	Describes the skills and knowledge required to determine the carbon footprint of a section of a value chain and make recommendations for improvements. **Comment**

#	Unit Code	Unit Title	Unit description
			Carbon measurement, reporting and management is global agenda and priority for commonwealth and state/territory governments. As an example, refer to WA government's Strategic Training Plan.
7	AHCPMG301	Control weeds	Describes the skills and knowledge required to plan and coordinate weed control activities using appropriate strategies to provide effective, economic control while minimising environmental damage.
8	AHCPMG302	Control plant pests, diseases and disorders	Describes the skills and knowledge required to identify and assess the effect to plants of plant pests, diseases and disorders and plan and coordinate control measures.
9	AHCPMG308	Implement pest management strategies	Describes the skills and knowledge required to assist in the implementation of a pest management plan for weeds, vertebrate or invertebrate pests.
10	AHCCHM304	Transport and store chemicals	Has four elements: 1. Prepare to handle and transport chemicals 2. Handle and transport chemicals 3. Store chemicals in the workplace 4. Record storage details
11	AHCCHM307	Prepare and apply chemicals to control pest, weeds and diseases	Describes the skills and knowledge required to safely prepare and apply chemicals for the control of pests, weeds and diseases, using general application equipment.
12	AHCMOM317	Operate tractors with attachments	Describes the skills and knowledge required to prepare for, operate and maintain tractor operations with attached equipment.
13	AHCMOM302	Perform machinery maintenance	Describes the skills and knowledge required to prepare, inspect, maintain and record maintenance requirements for machinery that is used principally in agriculture, horticulture, and conservation and land management work.
14	AHCINF305	Implement property improvement, construction and repair	Describes the skills and knowledge required to implement property improvement, construction and repair where the services of a tradesperson are not necessary.
15	BSBTEC403	Apply digital solutions to work processes	Defines the skills, knowledge and outcomes to integrate digital technologies into common management practice. **Comment:**

#	Unit Code	Unit Title	Unit description
	AHCNEW3XX	AND / OR a proposed new unit. Operate and monitor agricultural production data information technologies, systems and software.	Based on stakeholder feedback, BSBTEC403 lacks some important outcomes required by trade level workers in agriculture. The proposed new unit should include the skills and knowledge to: - Install and use digital information systems, technologies and/or software - ensure relevant, valid and reliable data is being collected, monitored and stored - select, extract and analyse critical data - interpret and act upon critical information - identify and/or rectify faults in digital systems and software
16	AHCNEW4XX	Select appropriate technology for an agricultural production system	Proposed new unit to provide the skills and knowledge to research and recommend suitable technologies (including plant, machinery, equipment and digital resources) for a specific agricultural production system. The suggested elements are: 1. Identify the needs and selection criteria for appropriate technology 2. Investigate appropriate technology 3. Evaluate appropriate technology options 4. Select appropriate technology 5. Document a proposal to procure the appropriate technology.
17	AHCWRK318	Comply with industry quality assurance requirements	Has three elements: 1. Follow quality assurance practices 2. Implement standard operating procedures 3. Reporting problems that affect quality.
18	AHCAGB302	Keep production records for a primary production business	Describes the skills and knowledge required to keep production business records, such as paddock and livestock activity, in accordance with workplace requirements for decision-making and auditing.
19	BSBXCM301	Engage in workplace communications	Describes the skills and knowledge required to communicate (through written, oral and nonverbal form) in the workplace within an industry.
20	TAEDEL311	Provide work skill instruction	Describes the skills and knowledge required to conduct individual and small group work skill instruction using existing support materials and demonstration of work skills as a training strategy; and assess the success of training and one's own training performance. It focuses on the training being driven by the work process and context.

Group A

Suggested units to develop agronomy, property asset enhancement and land care knowledge and skills.

#	Unit Code	Unit Title	Unit description
1	AHCBAC513	Apply plant biology to agronomic practices	Describes the skills and knowledge required to apply introductory plant biology, including plant taxonomy, plant morphology and plant physiology, to a wide range of agronomic practices.
2	AHCCFP405	Increase carbon using vegetation and/or agricultural methods	Describes the skills and knowledge required to identify the benefits of increasing carbon in the biosphere, using vegetation and agricultural methods, and to implement a project to reduce emissions or store carbon. This unit does not cover increasing carbon in soil (refer to AHCCFP401 Increase soil organic carbon using land management practices).
3	AHCCFP401	Increase soil organic carbon using land management practices	Describes the skills and knowledge required to identify the benefits of increasing soil organic carbon for soil condition or soil health, and to implement a project to increase soil carbon.
4	AHCAGB404	Plan and implement infrastructure improvements	Describes the skills and knowledge required to plan and implement improvements to property infrastructure, which may include buildings, yards, fences, water supply systems, roads and tracks, and storage systems.
5	AHCBUS406	Administer finance, insurance and legal requirements.	Has three elements: 1. Administer the legal requirements of the business 2. Process and maintain the insurance requirements for the business 3. Identify sources, types and cost of finance 4. Develop an application for finance or investment
6	AHCECR501	Manage natural areas on a rural property	Describes the skills and knowledge required to manage natural areas on privately owned rural properties and enhance the sustainable ecological and economic capacity and outcomes of the land.
7	AHCECR506	Develop and implement sustainable land use strategies	Describes the skills and knowledge required to develop and implement sustainable land use strategies that lead to improved ecological sustainability of land under production.

Group B

Suggested units that cover **Broadacre Cropping** work functions.

#	Unit Code	Unit Title	Unit description
1	AHCMOM308	Operate broadacre and row crop harvest machinery and equipment	Describes the skills and knowledge required to operate harvest machinery and equipment used for broadacre and row crop harvesting in the agriculture and horticulture sectors.
2	AHCMOM309	Operate broadacre sowing machinery and equipment	Describes the skills and knowledge required to operate machinery and equipment required for broadacre sowing in agriculture and horticulture sectors.
3	AHCMOM312	Operate row crop planting and seeding machinery and equipment.	Describes the skills and knowledge required to operate machinery and equipment required for row crop planting and seeding in agriculture and horticulture sectors.
4	AHCBAC309	Undertake preparation of land for agricultural crop production	Describes the skills and knowledge required to select materials and equipment from crop production plan and prepare the land for an agricultural crop.
5	AHCMOM315	Operate chemical application machinery and equipment	Describes the skills and knowledge required to operate machinery and equipment used for specialised liquid and granular chemical application in agriculture and horticulture sectors.
6	AHCBAC315	Establish agricultural crops	Describes the skills and knowledge required to prepare and safely operate equipment and sow/plant an agricultural crop following specifications in a crop production.
7	AHCBAC316	Maintain agricultural crops	Describes the skills and knowledge required to monitor and assess broadacre crop health and condition and implement crop maintenance procedures.
8	AHCBAC317	Undertake agricultural crop harvesting activities	Describes the skills and knowledge required to prepare equipment and resources for crop harvesting, determine crop readiness for harvest and harvest a crop safely and efficiently.
9	AHCINF307	Plan and construct conventional fencing	Has four elements: 1. Determine fencing requirements 2. Prepare for construction 3. Construct conventional fence 4. Complete fencing operations

10	AHCIRG346	Operate pressurised irrigation systems	Describes the skills and knowledge required to pre-start check, inspect, start up, operate, monitor and shut down pressurised irrigation systems.
11	AHCIRG338	Trouble shoot irrigation systems	Describes the skills and knowledge required to locate and identify irrigation system faulty components and blockages, shut down and isolate components, replace faulty components, clear blockages and return irrigation system to normal operating status.

Group C

Suggested units that cover **Dairy Production** work functions.

#	Unit Code	Unit Title	Unit description
1	AHCDRY202	Milk livestock	Describes the skills and knowledge required to extract milk from a range of livestock. It requires the ability to prepare site and equipment for milking, move and handle livestock, identify and report on abnormal livestock conditions and complete tasks after milking operations.
2	AHCDRY303	Coordinate and monitor milking operations	Describes the skills and knowledge required to coordinate and monitor the milking operations of a dairy facility. It requires the ability to determine requirements and procedures for milking operations, implement livestock health program and monitor operations.
3	AHCDRY304	Carry out routine service of milking equipment	Describes the skills and knowledge required to identify faults that do not require the services of qualified tradespeople and carry out routine service, adjustment and maintenance of milking equipment.
4	AHCDRY402	Manage milking shed operations	Describes the skills and knowledge required to manage milking shed operations for a dairy facility according to regulatory and quality requirements.
5	AHCDRY305	Conduct mechanical tests on milking machines	Describes the skills and knowledge required to mechanically test and make recommendations on the performance of milking machines used on dairy farms.
6	AHCDRY306	Operate a dairy waste utilisation system	Describes the skills and knowledge required to prepare, operate, maintain and monitor a dairy waste utilisation system.
7	AHCLSK342	Prepare animals for parturition	Describes the skills and knowledge required to feed and care for animals through the latter stages of pregnancy to birthing

8	AHCLSK330	Implement procedures for calving	Describes the skills and knowledge required to prepare for calving, observe and support cows at calving and monitor after calf is born.
9	AHCLSK331	Comply with industry animal welfare requirements	Describes the skills and knowledge required to comply with industry animal welfare requirements in the production of livestock.
10	AHCLSK318	Rear newborn and young livestock	Has four elements: 1. Prepare for care of newborn and young 2. Provide care for newborn and young 3. Monitor health of newborn and young 4. Meet ongoing requirements
11	AHCLSK309	Implement animal health control programs	Has four elements: 1. Assess animal health status and treatment options 2. Prepare for treatment of animals 3. Treat animals 4. Complete treatment process
12	AHCLSK301	Administer medications for livestock	Describes the skills and knowledge required to apply preventative health treatments and other medications to livestock under professional supervision.
13	AHCLSK311	Implement feeding plans for livestock	Describes the skills and knowledge required to monitor available pasture for grazing and implementing a feeding plan.
14	AHCLSK402	Develop livestock feeding plans	Has four elements: 1. Determine nutritional requirements for livestock 2. Assess pasture feed 3. Determine supplementary feeding program 4. Develop livestock feeding plan
15	AHCLSK305	Maintain livestock water supplies	Has four elements: 1. Identify maintenance requirements 2. Prepare for maintenance 3. Carry out maintenance procedures 4. Complete maintenance procedures
16	AHCLSK422	Identify and select animals for breeding	Describes the skills and knowledge required to identify and select animals for breeding.

17	AHCLSK307	Euthanase livestock	Describes the skills and knowledge required to euthanase livestock without distress or suffering prior to cessation of their vital life functions.
18	AHCIRG346	Operate pressurised irrigation systems	Describes the skills and knowledge required to pre-start check, inspect, start up, operate, monitor and shut down pressurised irrigation systems.
19	AHCIRG338	Trouble shoot irrigation systems	Describes the skills and knowledge required to locate and identify irrigation system faulty components and blockages, shut down and isolate components, replace faulty components, clear blockages and return irrigation system to normal operating status.

Group D

Suggested units that cover **Livestock Production** work functions.

#	Unit Code	Unit Title	Unit description
1	AHCLSK331	Comply with industry animal welfare requirements	Describes the skills and knowledge required to comply with industry animal welfare requirements in the production of livestock.
2	AHCLSK342	Prepare animals for parturition	Describes the skills and knowledge required to feed and care for animals through the latter stages of pregnancy to birthing
3	AHCLSK330	Implement procedures for calving	Describes the skills and knowledge required to prepare for calving, observe and support cows at calving and monitor after calf is born.
4	AHCLSK318	Rear newborn and young livestock	Has four elements: 1. Prepare for care of newborn and young 2. Provide care for newborn and young 3. Monitor health of newborn and young 4. Meet ongoing requirements
5	AHCLSK309	Implement animal health control programs	Has four elements: 1. Assess animal health status and treatment options 2. Prepare for treatment of animals 3. Treat animals 4. Complete treatment process

6	AHCLSK301	Administer medications for livestock	Describes the skills and knowledge required to apply preventative health treatments and other medications to livestock under professional supervision.
7	AHCLSK311	Implement feeding plans for livestock	Describes the skills and knowledge required to monitor available pasture for grazing and implementing a feeding plan.
8	AHCLSK402	Develop livestock feeding plans	Has four elements: 1. Determine nutritional requirements for livestock 2. Assess pasture feed 3. Determine supplementary feeding program 4. Develop livestock feeding plan
9	AHCLSK305	Maintain livestock water supplies	Has four elements: 1. Identify maintenance requirements 2. Prepare for maintenance 3. Carry out maintenance procedures 4. Complete maintenance procedures
10	AHCLSK422	Identify and select animals for breeding	Describes the skills and knowledge required to identify and select animals for breeding.
11	AHCAIS304	Artificially inseminate livestock	Describes the skills and knowledge required to prepare for and artificially inseminate livestock, complete documentation and records, and complete work.
12	AHCLSK307	Euthanase livestock	Describes the skills and knowledge required to euthanase livestock without distress or suffering prior to cessation of their vital life functions.
13	AHCLSK308	Identify and draft livestock	Describes the skills and knowledge required to identify and draft or sort animals for sale, breeding or other enterprise requirements.
14	AHCLSK320	Coordinate and monitor livestock transport	Describes the skills and knowledge required to safely and efficiently transport livestock to a destination within specified timeframes. All work must be carried out to comply with workplace procedures, work health and safety, animal welfare and biosecurity legislation and codes of practice and sustainability practices.
15	AHCBAC313	Establish pastures and crops for livestock production	Describes the skills and knowledge required to prepare and establish pasture and crops for livestock and implement grazing strategies for livestock production.

16	AHCBAC310	Maintain pastures and crops for livestock production	Has four elements: 1. Monitor & assess agricultural pasture and crop condition, growth and requirements 2. Undertake pasture and crop health operations 3. Complete cleaning and hygiene operations 4. Implement grazing strategies
17	AHCBAC317	Undertake agricultural crop harvesting activities	Describes the skills and knowledge required to prepare equipment and resources for crop harvesting, determine crop readiness for harvest and harvest a crop safely and efficiently.
18	AHCBAC311	Conserve forage	Describes the skills and knowledge required to prepare paddocks and storage facilities for forage conservation. It includes processing and harvesting forage crops and placing them into storage. The process also includes managing risks associated with forage conservation activities.
19	AHCINF306	Plan and construct an electric fence	Describes the skills and knowledge required to plan, construct and maintain an electric fence.
20	AHCINF307	Plan and construct conventional fencing	Describes the skills and knowledge required to plan and construct conventional fencing.
21	AHCIRG346	Operate pressurised irrigation systems	Describes the skills and knowledge required to pre-start check, inspect, start up, operate, monitor and shut down pressurised irrigation systems.
22	AHCIRG338	Trouble shoot irrigation systems	Describes the skills and knowledge required to locate and identify irrigation system faulty components and blockages, shut down and isolate components, replace faulty components, clear blockages and return irrigation system to normal operating status.
23	AHCLSK218	Ride educated horses to carry out basic stock work	Describes the skills and knowledge required to handle and ride calm horses educated to muster and move livestock. It addresses the potential risks associated with working with and around horses and livestock.
24	AHCLSK419	Manage horses for stock work	Describes the skills and knowledge required to manage horses for stock work, including coordinating specialist services from veterinarians and farriers.

Group E

Suggested units related to agricultural machinery operations.

#	Unit Code	Unit Title	Unit description
1	AUMGTW003	Perform manual metal arc welding	Describes the performance outcomes required to prepare and weld components using the manual metal arc welding (MMAW) process.
2	AUMGTW005	Perform gas metal arc welding	Describes the performance outcomes required to weld components using the gas metal arc welding (GMAW) process.
3	AHCMOM216	Operate side by side utility vehicles	Describes the skills and knowledge required to safely operate a side-by-side utility vehicle including undertaking pre-start checks and shut down procedures.
4	ACHMOM217	Operate Quad Bikes	Describes the skills and knowledge required to safely operate quad bikes including undertaking pre-start checks and shut down procedures.
5	AHCMOM303	Operate a telehandler	Describes the skills and knowledge required to operate a telehandler, including the use of attachments, safe driving and operation.
6	AHCMOM304	Operate machinery and equipment	Describes the skills and knowledge required to prepare and operate machinery and equipment in a safe and controlled manner that is used principally in agriculture, horticulture, and conservation and land management work.
7	AHCMOM310	Operate land-forming machinery and equipment	Describes the skills and knowledge required to operate machinery and equipment used for land-forming in agriculture and horticulture sectors.
8	AHCMOM311	Operate precision control technology	Describes the skills and knowledge required to operate precision technology used for the control of specialised machinery and equipment and to optimise specialised machinery performance. **Note:** Precision control technology must include at least one of the following: - on-board Global Positioning System (GPS), Global Navigation Satellite System (GNSS) or Differential Global Positioning System (DGPS) precision control equipment - fixed GPS, GNSS or DGPS precision control equipment.
9	AHCMOM313	Operate mobile irrigation machinery and equipment	Describes the skills and knowledge required to operate mobile machinery and equipment used for irrigation in agriculture and horticulture sectors.

10	AHCMOM314	Transport machinery	Describes the skills and knowledge required to load, transport and unload machinery used for earth-moving and agricultural operations
11	AVIY0027	Operate multi-rotor remote pilot aircraft systems	Involves the skills and knowledge required to operate multi-rotor remote pilot aircraft systems (RPAS) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards. It includes operating and managing multi-rotor RPAS during normal flight and during abnormal and emergency procedures.
12	HLTAID311	Provide First Aid	Describes the skills and knowledge required to provide a first aid response to a casualty in line with first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies.